DOCUMENT RESUME

ED 327 277 PS 019 194

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TITLE Evaluation of Project Giant Step. Year Two Report: The Study of Program Effects. June 1990.
INSTITUTION Abt Associates, Inc., Cambridge, Mass.
PUB DATE Jun 90
NOTE 153p.; For Executive Summary, see ED 316 337.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC07 Plus Postage.
DESCRIPTORS *Academic Achievement; Community Programs; *Disadvantaged Youth; Early Childhood Education; *Emotional Development; Faculty Mobility; *Family Programs; *Program Evaluation; *Social Development; Urban Areas
IDENTIFIERS *New York (New York)

ABSTRACT

This volume presents the findings of the second year of a 3-year evaluation of Project Giant Step, focussing on the effects of the project on children, families, and staff. Begun in the fall of 1986, Project Giant Step is a half-day comprehensive program for 4-year old, low-income children and their families in New York City who are not served by other programs. Chapter 1 provides an overview of the evaluation. Chapter 2 describes the sample, while Chapters 3 and 4 present findings on participating children's cognitive achievement and social and emotional functioning. Chapter 5 describes changes in Giant Step families, and Chapter 6 discusses the program's effects on staff, and particularly on staff mobility. An appendix provides information on the study's methodology. (RH)

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EVALUATION OF PROJECT GIANT STEP

YEAR TWO REPORT:

The Study of Program Effects.

June 1990

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This is the second report from the Evaluation of Project Giant Step, a three-year study which began in August 1987 and will end in December 1990. The first report examined the implementation of Project Giant Step in the group of sites selected for the study. This volume presents the findings of a preliminary study of Giant Step's effects on children, families and staff over the first two years of the study. The final report will examine the longer-term effects of the program on Giant Step children as they move through the early school years and will assess the cost-effectiveness of the program.

TABLE OF CONTENTS

		Page
INTRODUCTION		1
HIGHLIGHTS OF MAJOR FINDINGS		3
CHAPTER ONE -	OVERVIEW OF THE EVALUATION	6
CHAPTER TWO -	DESCRIPTION OF THE SAMPLE	12
CHAPTER THREE-	CHILDREN'S COGNITIVE ACHIEVEMENT IN GIANT STEP	19
CHAPTER FOUR -	CHILDREN'S SOCIAL AND EMOTIONAL FUNCTIONING IN GIANT STEP	35
CHAPTER FIVE -	CHANGES IN GIANT STEP FAMILIES	53
CHAPTER SIX -	PROGRAM EFFECTS ON STAFF	68
APPENDIX A	Attrition in the Child Sample	70
	Psychometric Information on Instruments Used in the Evaluation	75

INTRODUCTION

During the 1980s, there has been increasing interest in early childhood education. The immediate problem of the rising numbers of young people who drop out of school before completing their education, and the long-term need for a better-educated workforce, have both focused attention on the potential of preschool programs to influence children's school achievement. The first studies of the benefits of Head Start seemed to show early IQ gains which later dissipated in elementary school. However, later follow-up studies (most notably the investigation conducted by the Consortium for Longitudinal Studies), using a broader range of long-term outcome measures, found that low-income children who participated in high quality preschool programs were less likely to be retained in grade or assigned to special education programs, and were more likely to complete high school than similar students who had no such preschool experience. These findings are of particular relevance to New York City where many of the children entering city schools are at risk for early school failure.

Nationally, programs such as Head Start serve only a fraction of the low-income children who are eligible to participate. Recognition of this problem has stimulated action by a growing number of state legislatures, as well as, most recently, by the federal government. In the spring of 1985, Mayor Koch formed a Commission on Early Childhood Education and charged it with three tasks: to assess the need for preschool programs in New York City; to determine the impact of such programs city-wide; and to project the implications of the proposed programs for a population considered to be at risk. The Commission's final report was titled Take a Giant Step: An Equal Start in Education for all New York City Four-Year-Olds.

The Commission determined that, while a variety of programs existed to provide a preschool experience for four-year-olds in New York, many low-income children had no preschool experience. The body of evidence that well-structured, comprehensive preschool programs can have a major effect on the school achievement of children from low-income families fueled their recommendations that the city embark on an ambitious and innovative new program.

Project Giant Step is the realization of the report's primary recommendation. The program is a bold attempt to provide comprehensive services to those low-income children and their families in New York City who are unserved by existing programs. The Commission report spelled out the program approach, the program components (including support services), and the administrative structures that

needed to be developed to carry out its recommendations. Specifically, the Commission recommended the establishment of an early childhood education office in the New York City Mayor's Office to provide leadership and to coordinate the activities of the two public bodies that were charged with implementing Project Giant Step -- the Agency for Child Development and the Board of Education. Begun in the fall of 1986, Project Giant Step is a half-day comprehensive program for four-year-old children and their families. It combines an appropriate developmental and educational experience for children with support services for families and a program to involve parents in their children's education. The program is offered in selected public schools, day care centers and Head Start programs in New York City communities with large numbers of economically disadvantaged children unserved by existing programs. Project Giant Step is coordinated by the Mayor's Office of Early Childhood Education and is administered by the New York City Board of Education (BOE) and the Agency for Child Development (ACD). The success of the program hinges on the unique collaboration among these three entities.

The program's educational component consists of three hours of classroom experience, either mornings or afternoons, five days a week, ten months a year. It addresses a range of concerns including social, emotional, physical and cognitive development, as well as health and nutrition. Parent involvement activities are designed to increase parents' understanding of and involvement in their children's education. Support services to families are intended to provide self-help mechanisms so that parents can assist themselves and their families. During the 1987-1988 academic/school program year, the rep. program was funded to serve approximately 8,000 children and families. In the 1988-89 program year, it was funded to serve more than 10,000 children and families.

In July 1987, Abt Associates Inc. of Cambridge, Massachusetts was awarded a contract to conduct an evaluation of the program. The evaluation of Project Giant Step is a three-year study to examine the implementation and assess the cost-effectiveness of the program. During the first study year, the evaluation investigated the implementation of the program. In the second year, the evaluation focused on the program's impact on children, their families and the staff who worked with them. This report presents the findings of the second year of the study. A separate report, to be issued later this year, will discuss program costs. In the final phase of the study, the evaluation will link program costs to outcomes. The final report will appear in December 1990.

HIGHLIGHTS OF MAJOR FINDINGS

In the first two years of the evaluation, we examined the impact of Project Giant Step on a randomly selected sample of approximately 900 children, their families and the teachers and other staff who worked with them. Classroom observations, assessments of children through developmental tests and ratings of social behavior, as well as interviews with staff and parents, provided the basis for an analysis of the program's short-term effects.

GIANT STEP'S EFFECTS ON CHILDREN

A consistent pattern of findings emerged across different measures of children's development. Not only did children in Project Giant Step show significant gains on a test of cognitive achievement, but also their social skills and their ability to undertake classroom tasks improved significantly.

- **Children enrolled in Project Giant Step demonstrated substantial gains on the Preschool Inventory (PSI) over the course of the program year. These gains were considerably greater than would be expected as part of normal development and greater than gains achieved on the same test by children in other comparable early childhood programs.**

- **Children improved in their ability to work with adults and other children and to organize, manage and complete classroom tasks.**

GIANT STEP'S EFFECTS ON PARENTS

Assigning a full-time staff member to each class to work with parents, Project Giant Step placed a strong emphasis on involving and supporting parents, both as individuals with their own needs and as potent influences on their children's development and future school success. Again, judged by a variety of different measures, Giant Step achieved many of its goals. Parents' attitudes towards and beliefs about childrearing and children's development underwent positive change during the program year. They maintained high hopes for their children's educational success. Parents participated in program activities and found program staff responsive to their needs.

- **Parents' attitudes towards childrearing, understanding of children's development and learning processes and confidence in their own role as teacher changed positively over the course of the program year.**

- Giant Step parents began the program with high expectations for their children's school success. Over 80 percent expected their child to do well, or very well in school; nearly all believed their child would graduate from high school; and a majority thought their child should go to college. There was little change in parents' expectations as a result of their participation in the program.

- The overwhelming majority of Giant Step parents enrolled children in the program hoping it would prepare them for school by improving their academic and social skills. A year later, two-thirds felt that Giant Step had improved their children's academic skills and almost 80 percent felt the program had improved their children's social skills.

- Eighty percent of parents helped out in the classroom at some time or accompanied children on field trips. More than two-thirds attended at least one educational class or event organized for parents by the program.

- Giant Step staff provided support to parents in two ways. First, they offered information and advice on topics of concern to most parents of young children, such as children's developmental needs, safety in the home and the parent's role as teacher. Secondly, they provided assistance directly or through a referral to a community resource. Not all parents needed or requested assistance from Giant Step. For those who did request help, program staff were responsive and provided help to parents who wanted to know how to help their children learn or who wanted information about the public schools, as well as to those who needed information about or referral to health services, adult education programs, day care and employment services and food assistance. Fewer resources were available to deal with housing or transportation problems, so that program staff were not always able to provide help in these areas.

GIANT STEP'S EFFECTS ON STAFF

The quality and stability of classroom staff are important indicators of program quality. Giant Step emphasizes the importance of ongoing staff development for all program staff, both to encourage professional growth and to reduce staff turnover. At a time when early childhood programs nationally are experiencing high staff turnover and difficulty in recruiting qualified staff, Giant Step was successful in both recruiting and retaining highly qualified staff. Staff expressed satisfaction with the training they received and with the program in general. Their comments reflected pride and a sense of mission.

- Turnover of teaching staff in Giant Step was much lower than for early childhood teaching staff nationally. From September 1987 to September 1988, there was 21 percent turnover in Giant Step compared with 41 percent nationally.

- Staff turnover within a program year was very low — 7.5 percent in 1987-88 and 4.5 percent in 1988-89. Most of the attrition occurred over the summer months, between program years. For most of the children, this meant a stable experience with the same classroom staff throughout the year.

- Nationally, the rate of staff turnover in early childhood programs is increasing dramatically. Within six months in 1988, child care programs nationally experienced 37 percent attrition. By contrast, after two years of Giant Step, 75 percent of the original teaching staff remained and the turnover rate was decreasing.

CHAPTER ONE

OVERVIEW OF THE EVALUATION

In 1987, Abt Associates Inc. of Cambridge, Massachusetts, was awarded a contract to conduct a three-year comprehensive evaluation of Project Giant Step. The three components of the evaluation are: a study of the program's implementation; a study of the effects of the program on children, families, staff and institutions; and a study of the cost-effectiveness of the program.

The Implementation Study was intended to provide a context for the Study of Program Effects and to assess the implementation of the program. The Study of Program Effects examines the program's effects on two groups of children and their families, one selected in the first study year (1987-88), the second group chosen in the second study year (1988-89). The first group is being followed from Giant Step through kindergarten and first grade; a matched comparison group of children will be selected from children in the same classes. The second group of children and families is being followed through kindergarten and matched with a comparison group of children. In addition, the effect of the program on staff and institutions will be investigated. Finally, the Cost-Effectiveness Study will examine program costs and relate them to program activities and effects.

The evaluation has four phases. Phase I (July 1 - August 31, 1987) was a planning phase. Phase II (September 1, 1987 - August 31, 1988) focused on the implementation of the program. In addition, information on children and families was collected to provide the basis for the study of program effects. In Phase III (September 1, 1988 - August 31, 1989), all the study objectives were addressed. The study of program implementation continued. Information on children and families was gathered as children moved into kindergarten. Information was collected on a second group of four-year-olds in Giant Step programs. The study of the program's effects on staff and institutions was initiated. Finally, program cost data were collected.

In the final phase of the evaluation (September 1, 1989 - August 31, 1990), information is being collected on the two groups of Giant Step children, as they enter kindergarten and first grade. Comparisons for both groups of children will be selected. Studies of the effects of the program on staff and institutions will be completed. The cost-effectiveness study will be completed during this final phase.

STUDY OF PROGRAM EFFECTS

The study has three major objectives:

Objective 1: to assess the program's effects on children

In the first instance, the evaluation asks: to what extent does Project Giant Step enhance children's social, emotional, physical and cognitive readiness for kindergarten? In the final year of the study, questions will focus on the progress of Giant Step children in their early school years compared with that of other children in the same classes.

Objective 2: to assess the program's effects on families

Project Giant Step has a specific program component that addresses the needs of families. The study seeks to determine the effect of the program on parents' attitudes towards, expectations of and interactions with their children. In addition, the evaluation is examining both the extent to which Giant Step responded to families' requests for help and any changes in parents' educational or work status over time as a result of such assistance.

Objective 3: to assess the program's effects on program staff

Giant Step offers a unique program of preservice and in-service training to staff intended to ensure consistency in the delivery of essential program components, and to establish firmly the importance of the three-person classroom team in the planning and implementation of the program. The study examines staff satisfaction with Giant Step and with the opportunities for staff development and the program's effect on staff mobility.

The Study Sample

The design for the Study of Program Effects called for selection of two samples of children and their parents. The first group of children was selected in the fall of 1987 and will be followed through kindergarten and first grade. A second group of children was selected in the fall of 1988 and will be followed through kindergarten. For both groups of children, comparison groups are selected from among their classmates during the kindergarten year.

The criterion for the selection of individual program sites was that they be fully operational by the end of the 1986-87 school year. Twenty-four program sites (all but one of the initial program sites) were selected for the first year of the study. The Board of Education and the Agency for Child Development each administered 12 of the 24 sites. The sites contained between one and four Giant Step classrooms. Within each of these sites we selected randomly one class per classroom (that is, a morning or an afternoon class) for a total of 24 BOE and 21 ACD classes. In each of the classes chosen, we sought agreement to participate in the study from parents of all the children and then selected randomly 10 or 12 children (10 in BOE sites, 12 in ACD sites), from those whose parents agreed, for a total of 492 children. The sample size chosen took into account the expected attrition of children. A decision was made at the end of the 1987-88 school year to continue the study in the same sites and to enlarge the sample of children selected, to provide greater protection against attrition. Exhibit 1 shows the sample design for the study.

Measures

Measures for the study of program effects were identified or developed in three areas: child development; parent and family characteristics and attitudes; and staff satisfaction.

Evaluation of Child Development. Several aspects of child development were identified as relevant to the evaluation of the program in the first two years: cognitive functioning; social interactions; emotional well being; disposition towards learning and child's self-perception.

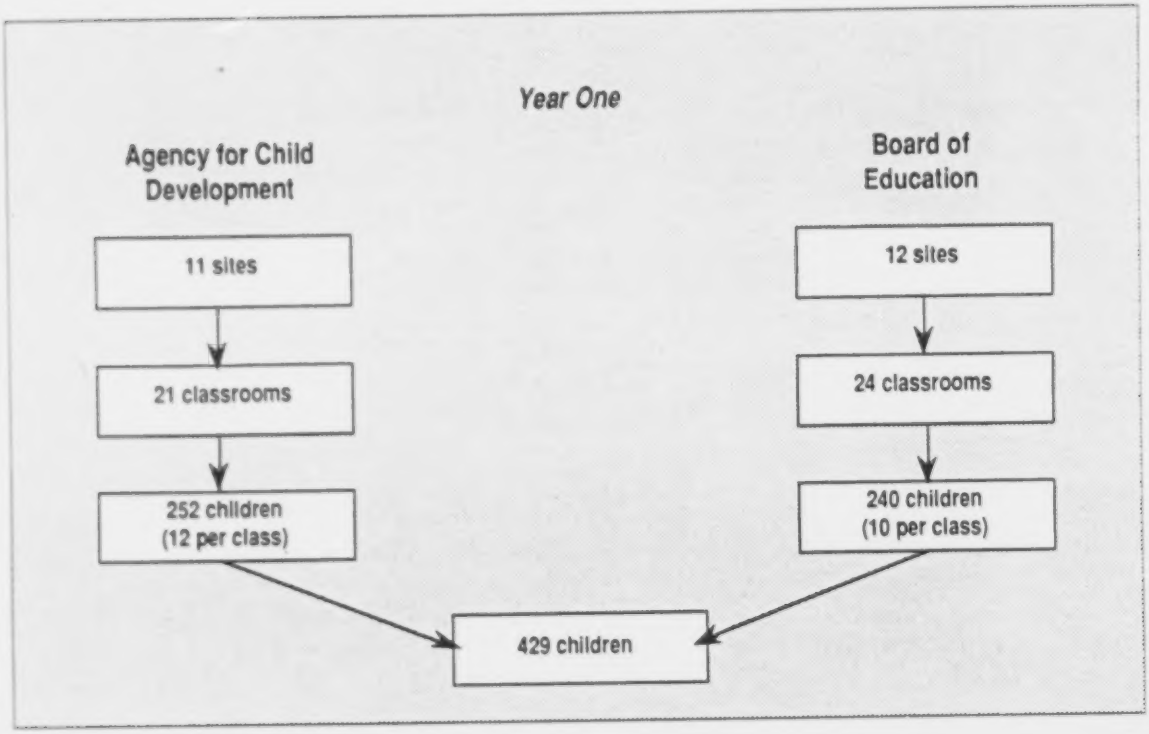
Three criteria governed our choice of a measure of cognitive functioning and school readiness for use in the prekindergarten year. They were:

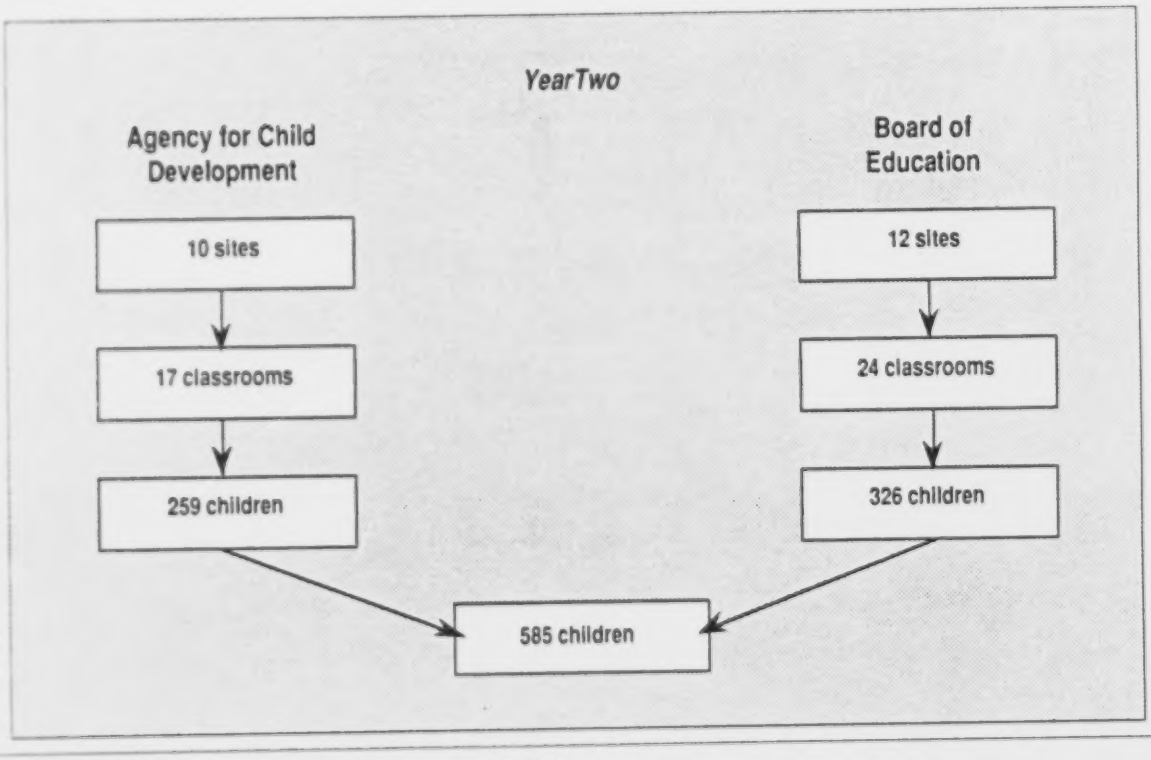
- the test should have been previously used in large studies of low-income populations and should provide appropriate norms for comparison;
- the test should be available in a Spanish translation; and
- the test should take less than 30 minutes to administer.

After reviewing a large number of measures we selected the Preschool Inventory (PSI) as the pre- and post-test measure for the preschool year. The PSI was developed for use with Head Start children and has been used in a number of national program evaluations. In addition, at the time of its selection, it was the only widely-used

Exhibit 1

Study Sample for Year One and Year Two





preschool test for which a Spanish translation was available. Simple and quick to administer, it met the needs of the study admirably.

More difficult was the selection of a measure of children's social and emotional development. A review of the available instruments showed that most had inadequate or untested reliability and validity, and none had been useful in measuring the effects of preschool programs in other large-scale evaluation studies. The instrument finally selected for use in the evaluation was the Child Behavior Rating Scale, developed specifically for the study by the authors of the two existing rating systems on which it was based, the Bronson General Competence Rating Scale and the Battelle Personal Social Scale. The Child Behavior Rating Scale includes 30 items to be completed on the basis of an observation of the child in a classroom setting. The instrument assesses children's social skills in interactions with teachers and other children, their approach to the organization and completion of classroom tasks and the proportion of the child's time spent in social play with peers, working with materials, engaged in solitary fantasy play or uninvolved in any activity.

Parent Measures. Project Giant Step is designed to promote the optimal development of children both directly, through appropriate education in the classroom and indirectly through family support services and the involvement of parents in the program. Two different types of potential outcomes for parents were identified: first, changes in parent's attitudes towards and understanding of childrearing and child development, as well as their expectations for the child's school success; and secondly, their satisfaction with the program, both in terms of what it provided their children and what it provided them.

Since resource constraints precluded the use of direct observation or face-to-face interviews, and since telephone interviews were successfully used in other studies, parent interviews were developed, tailored to the needs of the study, and designed to be administered by telephone several times over the course of the study. Part of the interview conducted with parents during both the prekindergarten and kindergarten year included a shorter version of Robert Strom's Parent as a Teacher Inventory (PAAT). Like the PSI, the PAAT has been used previously in national program evaluations and the validity of its self-report of parents' behavior has been tested by its use in conjunction with a two-site observational study as part of a national study.

The measure consists of 35 statements related to parent-child interaction and provides information on five topics: (1) Creativity -- encouragement of the child's imagination and curiosity; (2) Frustration -- absence of frustration or irritation with the

child's demands for attention and other commonplace behaviors; (3) Control -- willingness to allow the child choice and initiative; (4) Play -- understanding of the developmental function of play and willingness to participate in play; and (5) Teaching -- confidence in the parent's role as a teacher and understanding of children's learning processes.

Assessing Program Effects on Staff. Staff satisfaction with the program and with the opportunities it provided for professional development was assessed directly through interviews with staff and indirectly through measurement of staff turnover.

Methods

We began collecting data in October 1987 for the first cohort of Giant Step children. Children were tested and their behavior was rated in the fall of 1987 and again in the spring of 1988. Parents of these children were interviewed in the fall of 1987 and again in the fall of 1988, when the children were in kindergarten. Children in the second group were tested and rated in the fall of 1988 and again in the spring of 1989. Their parents were interviewed in the fall of 1988 and will be interviewed again this winter, part of the way through their children's kindergarten year.

For each data collection, testers remained on-site for approximately six days (longer in sites with more classrooms) and conducted classroom observations, as well as interviews with staff.

All classroom staff were interviewed in the fall of 1987 and again in the spring of 1988. New staff were interviewed in the fall of 1988 and again in the spring of 1989.

CHAPTER TWO

DESCRIPTION OF THE SAMPLE

THE SITES

The sites selected for the study in the first year represented all but one of Giant Step's "veteran," stable sites. All had been operating for one year before the beginning of the study. Although 12 sites were selected for each of the two sponsors, one ACD site did not receive an operating license and was dropped from the study. The second year of the study continued in the same sites, with the loss of another ACD site which closed. Thus the first-year study was conducted in 23 sites (11 ACD , 12 BOE) and the second-year study in 22 sites (10 ACD, 12 BOE.)

THE FAMILIES

While Project Giant Step is intended as a city-wide program for four-year-olds, the targets of its first programs were children from families in the poorest areas of the city, who were likely to be at greatest educational risk, and who were unserved by other programs. Exhibit 2.1 compares the Giant Step children and families with the population of four-year-olds and families living in New York City. While just over one-third of four-year-olds in New York live below the federal poverty level*, almost two-thirds of the Giant Step children in our sample live in poverty. Sixty percent of New York's four-year-olds live at or below 200 percent of poverty compared with 95 percent of Giant Step children.

Half of the Giant Step families in the sample were two-parent families (Exhibit 2.2) with an average of two children. While the remaining families were single-parent families, about half had other adults living in the home.

The majority of mothers of children in the sample had finished high school. In 1987-88, one-quarter of the mothers were working (Exhibit 2.3) and a smaller fraction (15 percent) were in school or in job training courses (Exhibit 2.4). In 1988-89, one-third of the mothers were working. Most working mothers were in full-time employment; some worked six or seven days a week (Exhibit 2.3). About 20 percent of mothers not working outside the home were actively seeking employment. Most mothers of children in both

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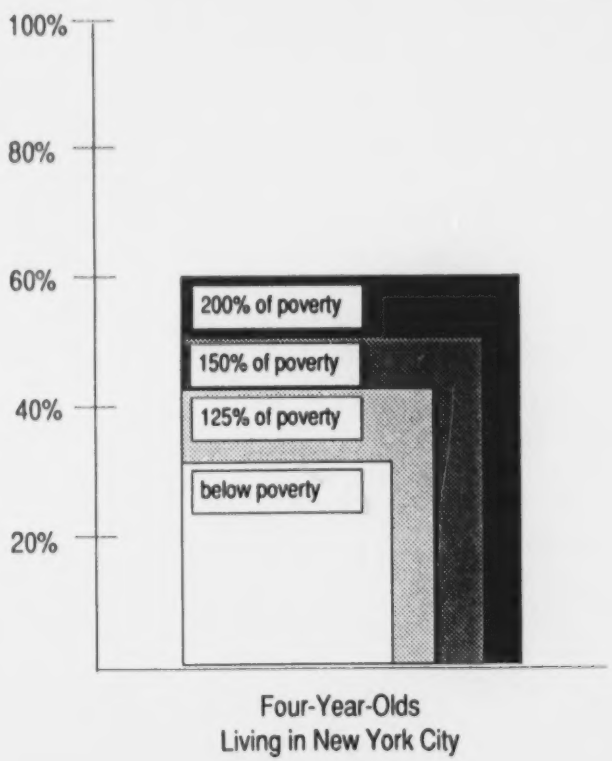
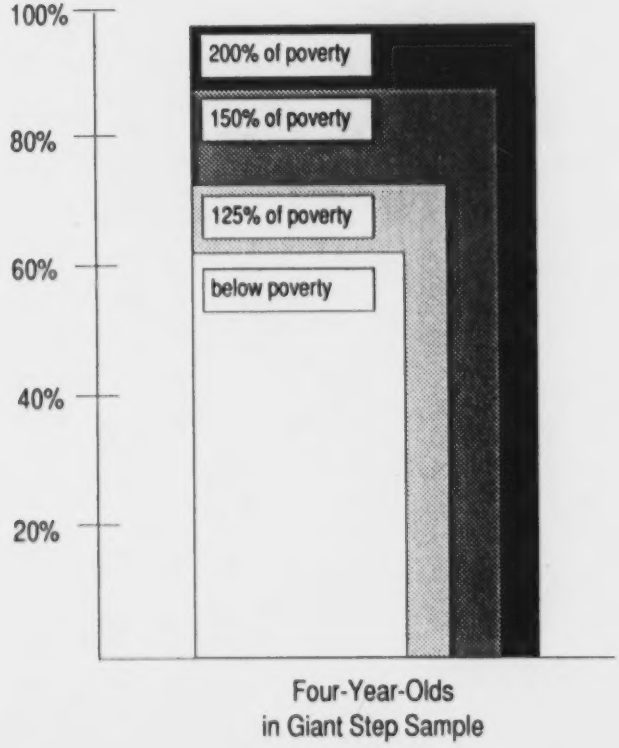
* $11,629 for a family of four in 1987 (U.S. Bureau of the Census)

Exhibit 2.1

Comparison of Poverty Levels of Giant Step Study Sample with Population of Four-Year-Olds in New York City





Source: *Take a Giant Step* Final Report of the Early Childhood Education Commission

Exhibit 2.2

Mother's marital status

	Cohort I		Cohort II	
	Number	Percent	Number	Percent
Married	165	45.0	199	49.5
Marriage-like relationship	15	4.1	19	4.7
Separated	56	15.3	64	15.9
Divorced	25	6.8	16	4.0
Widowed	2	0.5	5	1.2
Never married	104	28.3	99	24.6
Missing/Don't know	10	---	21	---
Total	377	100.0	423	100.0

Exhibit 2.3

Is child's mother employed outside the home

	Cohort I		Cohort II	
	Number	Percent	Number	Percent
Yes	95	25.7	124	31.1
No	275	74.3	275	68.9
Missing/Don't know	7	---	24	---
Total	377	100.0	423	100.0

How many days per week child's mother works

	Cohort I		Cohort II	
	Number	Percent	Number	Percent
2 - 4	12	13.3	22	17.9
5	69	76.7	87	70.7
6 - 7	9	10.0	14	11.4
Missing/Don't know	5	---	1	---
Total	95	100.0	124	100.0

Hours per week child's mother works

	Cohort I		Cohort II	
	Number	Percent	Number	Percent
≤ 20	9	9.8	18	14.8
21 - 30	16	17.4	13	10.7
31 - 40	53	57.6	74	60.7
41 +	14	15.2	17	13.9
Missing/Don't know	3	---	2	---
Total	95	100.0	124	100.0

Exhibit 2.4

Whether child's mother is currently in school or taking courses

	Cohort I		Cohort II	
	Number	Percent	Number	Percent
Yes	43	11.7	46	11.4
No	326	88.3	357	88.6
Missing/Don't know	8	----	20	----
Total	377	100.0	423	100.0

Is child's mother currently in a job training program

	Cohort I		Cohort II	
	Number	Percent	Number	Percent
Yes	12	3.2	10	2.5
No	358	96.8	391	97.5
Missing/Don't know	7	----	22	----
Total	377	100.0	423	100.0

cohorts had finished high school; almost 20 percent had some college experience (Exhibit 2.5).

For most of the children in the sample, Giant Step was their first experience in a preschool program. About six percent had attended Head Start; an additional 15 percent had been in a day care center. By 1988, some families had prior experience with Giant Step. About a third of the families with an older sibling had participated in Giant Step a year earlier and subsequently enrolled a younger child.

The final sample consisted of 1077 children.

Exhibit 2.5

Highest grade child's mother completed in school

	Cohort I		Cohort II	
	Number	Percent	Number	Percent
No high school diploma	155	41.8	138	34.1
High school diploma	123	33.2	151	37.3
Some college	68	18.3	89	22.0
College degree	17	4.6	18	4.4
Voc-tech degree	8	2.2	2	0.5
Some graduate school	0	0.0	6	1.5
Other, non-college	0	0.0	1	0.2
Missing/Don't know	6	----	18	----
Total	377	100.0	423	100.0

CHAPTER THREE

CHILDREN'S COGNITIVE ACHIEVEMENT IN GIANT STEP

The design of the Giant Step evaluation called for selection of a comparison group of children only after the children entered kindergarten. However, even in the absence of a comparison group, we were interested in assessing children's development during the Giant Step year and, to the extent possible, in estimating program effects at that early stage. This chapter of the report covers our findings on the cognitive achievement of two age cohorts of Giant Step children, as measured by their performance on the the Preschool Inventory.

Description of the Instrument

The Preschool Inventory (PSI) was developed by Bettye Caldwell and her associates in 1965 to provide Project Head Start with a practical measure of preschool achievement. It was intended to measure the achievement of three- to six-year-olds in educational skills traditionally expected of middle-class kindergarten children. The PSI provides a measure of achievement in areas regarded by the developers as necessary for success in school. The test score is defined as the number of correct items (out of a total 32 items). The instrument was designed to be sensitive to experience and can therefore be used to demonstrate changes associated with educational intervention. It has been used as a test instrument in many large scale research projects that explored the effectiveness of preschool programs. These include:

- the 1968-69 Head Start National Evaluation;
- the 1966-1972 Head Start Longitudinal Study;
- the 1969-1971 Head Start Planned Variation Project;
- a 1971 Project Follow Through pilot project;
- two Home Start Evaluations conducted through 1980;
- the National Day Care Study and the National Day Care Home Studies conducted 1975-1981;
- the 1979-1983 Child and Family Resource Program Evaluation; and
- the ongoing Home-Based Head Start Evaluation.

Throughout its extensive use, the PSI has consistently demonstrated excellent psychometric properties.

Administration of the PSI

For the Giant Step evaluation, the PSI was administered to two cohorts of children: Cohort I entered Giant Step in Fall 1987 and Cohort II entered the program in Fall 1988. For each cohort, the PSI was administered in the Fall and again in the Spring. The average elapsed time between tests was 5.6 months. Children were tested individually at their Giant Step program by an outside tester. The test was administered in English or Spanish, depending on the teacher's recommendation for an individual child.

In Cohort I, for each of the programs and classrooms in the evaluation, a sample of children was selected randomly from the roster for the fall baseline testing. Ten children were selected from each ACD classroom and 12 from each BOE classroom. In Cohort II, fall testing was done with every child for whom parental permission to participate was given. Therefore, the Cohort II sample is larger.

In Cohort I, 454 children were tested with the PSI in fall 1987. In Cohort II, 585 children were tested. Matched scores were available for 746 children.

Findings

Overall Cognitive Gains

Exhibits 3.1, 3.2 and 3.3 show the pretest and posttest PSI scores for children in Cohorts I and II, and in both Cohorts combined. Gain scores on the PSI over the Giant Step year were computed for the children who were tested at both fall (pretest) and spring (posttest). As Exhibits 3.1, 3.2 and 3.3 show, in both Cohorts, children gained an average of about one item per month. In order to assess whether the attrited and non-attrited children were systematically different, the pretest SPI scores of the two groups of children were compared. Exhibit 3.4 shows that in general the children who attrited from the sample between pretest and posttest scored lower on the PSI at pretest, compared with the children present for the posttest. The differences in pretest scores for attrited and non-attrited children were significant only in Cohort II.

The significance of children's gain on the PSI was assessed in two ways. First, the effect size was computed, following the work of G. Cohen (1977). The effect size for

Exhibit 3.1

Mean PSI Scores for Cohort I by Site

		Fall 1987			Spring 1988			Number of Items Gained Fall-Spring			Items Gained Per Month		
		Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N
Combined Totals		**12.6**	**6.1**	**454**	**17.8**	**6.6**	**364**	**5.1**	**5.1**	**364**	**0.95**	**1.1**	**364**
ACD Centers	1	9.5	5.4	24	17.5	4.8	22	8.0	3.0	22	1.60	0.6	22
	2	8.6	3.8	18	13.6	4.9	14	4.9	5.7	14	0.83	1.0	14
	3	13.7	3.1	12	18.2	5.3	10	4.9	3.4	10	0.82	0.6	10
	4	10.8	6.3	24	16.8	4.5	14	6.0	4.6	14	0.93	0.7	14
	5	18.3	3.8	12	22.2	3.9	12	3.9	4.0	12	0.78	0.8	12
	6	10.0	6.0	19	15.3	6.6	15	6.7	5.6	15	2.59	2.4	15
	7	13.2	7.2	24	23.6	4.7	22	10.1	6.1	22	1.63	1.0	22
	8	14.3	7.7	12	19.6	7.1	11	5.9	5.7	11	0.98	0.9	11
	9	12.7	6.3	48	16.2	6.6	39	4.1	5.4	39	0.68	0.9	39
	10	13.6	6.5	10	21.3	8.6	7	7.0	3.3	7	1.17	0.6	7
	11	14.8	6.0	12	19.1	7.2	10	4.2	3.3	10	0.70	0.5	10
ACD Totals		**12.2**	**6.3**	**215**	**18.2**	**6.4**	**176**	**6.0**	**5.2**	**176**	**1.16**	**1.2**	**176**
BOE Centers	1	12.3	6.3	19	17.1	5.2	16	3.7	5.2	16	0.72	1.0	16
	2	14.5	4.4	10	20.1	4.5	10	5.6	2.9	10	0.93	0.5	10
	3	13.0	6.8	20	18.4	6.8	14	5.2	2.9	14	0.74	0.4	14
	4	16.3	4.9	20	20.2	4.0	18	3.4	3.9	18	0.62	0.7	18
	5	8.9	5.9	30	13.1	8.1	17	3.7	2.9	17	0.65	0.5	17
	6	13.6	6.2	20	20.1	5.1	20	6.5	6.1	20	1.08	1.0	20
	7	16.6	4.6	20	18.8	4.3	12	2.7	3.5	12	0.53	0.7	12
	8	14.2	3.6	20	17.4	6.5	14	3.4	3.8	14	0.60	0.7	14
	9	12.7	5.0	20	19.8	6.0	16	7.9	4.5	16	1.34	0.7	16
	10	12.9	4.9	20	19.4	6.9	14	6.4	6.0	14	1.19	1.1	14
	11	12.5	6.6	20	14.9	8.6	19	2.4	7.6	19	0.40	1.3	19
	12	10.9	6.8	20	12.7	6.6	18	1.5	4.8	18	0.25	0.8	18
BOE Totals		**13.0**	**5.9**	**239**	**17.5**	**6.7**	**188**	**4.3**	**5.1**	**188**	**0.74**	**0.9**	**188**

Exhibit 3.2

Mean PSI Scores for Cohort II by Site

		Fall 1988			Spring 1989			Number of Items Gained Fall-Spring			Items Gained Per Month		
		Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N
Combined Totals		**12.0**	**6.7**	**585**	**19.1**	**6.7**	**382**	**5.9**	**5.2**	**382**	**1.04**	**1.0**	**382**
ACD Centers	1	7.0	5.1	31		missing		----	----	----	----	----	----
	2	11.2	7.1	18	13.3	8.4	13	0.8	7.1	13	0.13	1.2	13
	3	7.8	3.5	37	16.1	5.6	14	7.3	5.4	14	1.21	0.9	14
	4	18.0	6.3	21	23.8	2.4	19	5.3	5.2	19	1.06	1.0	19
	5	10.8	5.8	33	18.5	3.4	18	8.4	4.8	18	1.41	0.8	18
	6	14.8	6.9	27	27.4	1.0	26	12.0	6.4	26	2.62	1.4	26
	7	17.5	6.7	15	22.6	6.4	15	5.1	4.5	15	0.79	0.7	15
	8	10.3	6.9	49	16.9	6.2	38	6.6	5.1	38	1.10	0.9	38
	9	16.1	6.9	17	18.6	8.2	11	3.3	3.9	11	0.55	0.7	11
	10	17.1	5.3	11	20.7	5.5	9	2.9	4.1	9	0.48	0.7	9
ACD Totals		**11.8**	**7.0**	**259**	**20.1**	**6.8**	**163**	**6.5**	**6.1**	**163**	**1.21**	**1.2**	**163**
BOE Centers	1	11.2	5.5	28	15.2	5.6	20	3.6	4.4	20	0.59	0.7	20
	2	11.1	6.9	26	16.3	8.1	21	5.8	4.0	21	0.96	0.7	21
	3	10.1	6.5	26	17.5	5.7	16	6.7	2.9	16	1.15	0.5	16
	4	14.7	6.8	32	23.4	4.3	24	6.7	3.2	24	1.12	0.6	24
	5	10.4	6.0	53	14.5	6.1	36	4.6	4.9	36	0.78	0.8	36
	6	14.0	5.6	27	20.0	5.2	23	5.3	3.7	23	0.88	0.6	23
	7	14.8	5.9	29	22.1	4.9	23	7.1	4.2	23	1.18	0.7	23
	8	10.1	5.6	16	19.0	8.2	5	7.4	3.8	5	1.27	0.6	5
	9	14.1	4.9	21	23.2	4.3	9	9.8	5.5	9	1.63	0.9	9
	10	16.9	5.7	22	20.7	5.9	15	3.5	4.7	15	0.59	0.8	15
	11	8.6	4.6	21	18.1	4.4	9	5.9	2.4	9	0.98	0.4	9
	12	10.0	6.8	25	14.1	6.0	18	2.9	3.2	8	0.54	0.6	8
BOE Totals		**12.1**	**6.4**	**326**	**18.3**	**6.6**	**219**	**5.5**	**4.3**	**219**	**0.92**	**0.7**	**219**

Exhibit 3.3

Mean PSI Scores for Cohort I and II Combined by Site

		Fall Baseline			Spring Posttest			Number of Items Gained Fall-Spring			Items Gained Per Month		
		Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N
Combined Totals		**12.3**	**6.4**	**1039**	**18.4**	**6.7**	**746**	**5.5**	**5.2**	**746**	**0.99**	**1.0**	**746**
ACD Centers	1*	8.1	5.3	55	17.5	4.8	22	8.0	3.0	22	1.60	0.6	22
	2**	8.6	3.8	18	13.6	4.9	14	4.9	5.7	14	0.83	1.0	14
	3	12.2	5.9	30	15.4	7.5	23	2.6	6.0	23	0.43	1.0	23
	4	9.0	5.0	61	16.4	5.0	28	6.6	5.0	28	1.07	0.8	28
	5	18.1	5.5	33	23.2	3.1	31	4.8	4.8	31	0.95	1.0	31
	6	10.5	5.8	52	17.1	5.3	33	7.7	5.2	33	1.94	1.8	33
	7	14.1	7.0	51	25.7	3.8	48	11.1	6.3	48	2.17	1.3	48
	8	16.1	7.2	27	21.3	6.7	26	5.4	5.0	26	0.87	0.8	26
	9	11.5	6.7	97	16.6	6.4	77	5.3	5.4	77	0.89	0.9	77
	10	15.1	6.7	27	19.7	8.2	18	4.7	4.0	18	0.79	0.7	18
	11	15.9	5.7	23	19.8	6.3	19	3.6	3.7	19	0.60	0.6	19
ACD Totals		**12.0**	**6.7**	**474**	**19.1**	**6.7**	**339**	**6.3**	**5.6**	**339**	**1.18**	**1.2**	**339**
BOE Centers	1	11.6	5.8	47	16.0	5.5	36	3.6	4.7	36	0.65	0.9	36
	2	12.1	6.4	36	17.5	7.3	31	5.7	3.6	31	0.95	0.6	31
	3	11.3	6.7	46	17.9	6.1	30	6.0	2.9	30	0.96	0.5	30
	4	15.3	6.1	52	22.0	4.4	42	5.3	3.8	42	0.91	0.6	42
	5	9.9	6.0	83	14.0	6.8	53	4.3	4.3	53	0.74	0.7	53
	6	13.8	5.8	47	20.0	5.1	43	5.8	4.9	43	0.97	0.8	43
	7	15.5	5.4	49	21.0	4.9	35	5.6	4.5	35	0.96	0.8	35
	8	12.4	5.0	36	17.8	6.8	19	4.5	4.1	19	0.78	0.7	19
	9	13.4	4.9	41	21.0	5.6	25	8.6	4.9	25	1.44	0.8	25
	10	15.0	5.6	42	20.0	6.3	29	4.9	5.5	29	0.88	1.0	29
	11	10.5	5.9	41	15.9	7.5	28	3.5	6.5	28	0.59	1.1	28
	12	10.4	6.8	45	13.4	6.3	36	2.2	4.1	36	0.40	0.7	36
BOE Totals		**12.5**	**6.2**	**565**	**17.9**	**6.6**	**407**	**4.9**	**4.7**	**407**	**0.84**	**0.8**	**407**

*Posttest data only from Cohort I. ** Baseline and posttest data only from Cohort I.

Exhibit 3.4
Mean Pretest (Fall) PSI Scores for Children with and without PSI Posttest Scores

	Cohort I			Cohort II			Cohorts Combined		
	All	ACD	BOE	All	ACD	BOE	All	ACD	BOE
	$\bar{x}$ (n)	$\bar{x}$ (n)	$\bar{x}$ (n)	$\bar{x}$ (n)	$\bar{x}$ (n)	$\bar{x}$ (n)	$\bar{x}$ (n)	$\bar{x}$ (n)	$\bar{x}$ (n)
All children	12.60 (454)	12.21 (215)	12.95 (239)	12.00 (585)	11.84 (259)	12.13 (326)	12.26 (1039)	12.01(474)	12.48 (565)
Non-attrited children (with posttest scores)	12.66 (364)	12.11 (176)	13.17 (188)	13.14 (382)	13.52 (163)	12.85 (219)	12.90 (746)	12.79 (339)	13.00 (407)
Attrited children (missing posttest scores)	12.38 (90)	12.67 (39)	12.16 (51)	9.86 (203)	9.00 (96)	10.64 (107)	10.63 (293)	10.06 (135)	11.13 (158)
Significance of difference between attrited and non-attrited children	n.s.	n.s.	n.s.	p<.001	p<.001	p<.01	p<.001	p<.001	p<.01

the overall gains is .82 in Cohort I and .88 for Cohort II (Exhibit 3.5). According to Cohen, these effect sizes are large and educationally meaningful.

Second, we estimated what gains on the PSI these children might be expected to make in the absence of the preschool experience. Our very large sample of more than one thousand children allowed us to construct developmental norms for the PSI for this population of children, using their own pretest scores. The analysis showed that Giant Step children could be expected to gain .45 points per month on the PSI as part of normal development. The accuracy of this developmental norm was evaluated by comparing it with similar norms from three other national studies of comparable groups of children. There were only small differences among the samples (norms ranged from .35 points gain per month for a sample of children in Home Start to .5 points gain per month for a more middle-class sample of children drawn from the National Day Care Study) and the average across all three samples was .44 points per month, very close to the .45 points per month that we estimated to be the developmental gain for the Giant Step sample. The one item per month gain shown by children in the Giant Step program is thus more than twice what would be expected on the basis of development alone.

To examine further the significance of the gain, we compared it with gains made by children in other national studies. Three previous national studies that used the PSI showed a gain of .61 items per month (Home Start), .63 items per month (Head Start), and .67 items per month (National Day Care Study) (Exhibit 3.6). Of the three groups, the former two offer the more accurate comparison, since they are composed of children from low-income families. The day care sample represents a broader spectrum of family incomes.

Exhibits 3.7-3.9 show the average gains made by children in each of the centers in the Giant Step evaluation. Although substantial variation was found across programs, averages for individual programs were within one standard deviation of the group average (all but 5 of the 23 programs were within one-half standard deviation of the group mean).

Gains in ACD and BOE Programs

Exhibit 3.5 summarizes the PSI gains made by children in ACD and BOE programs. Both ACD and BOE programs produced increases on the PSI that were substantially greater than the one-half item per month that might be expected on the basis of development alone. In both ACD and BOE programs, the effect size was large and educationally significant. Information from an independent Chapter I Evaluation of

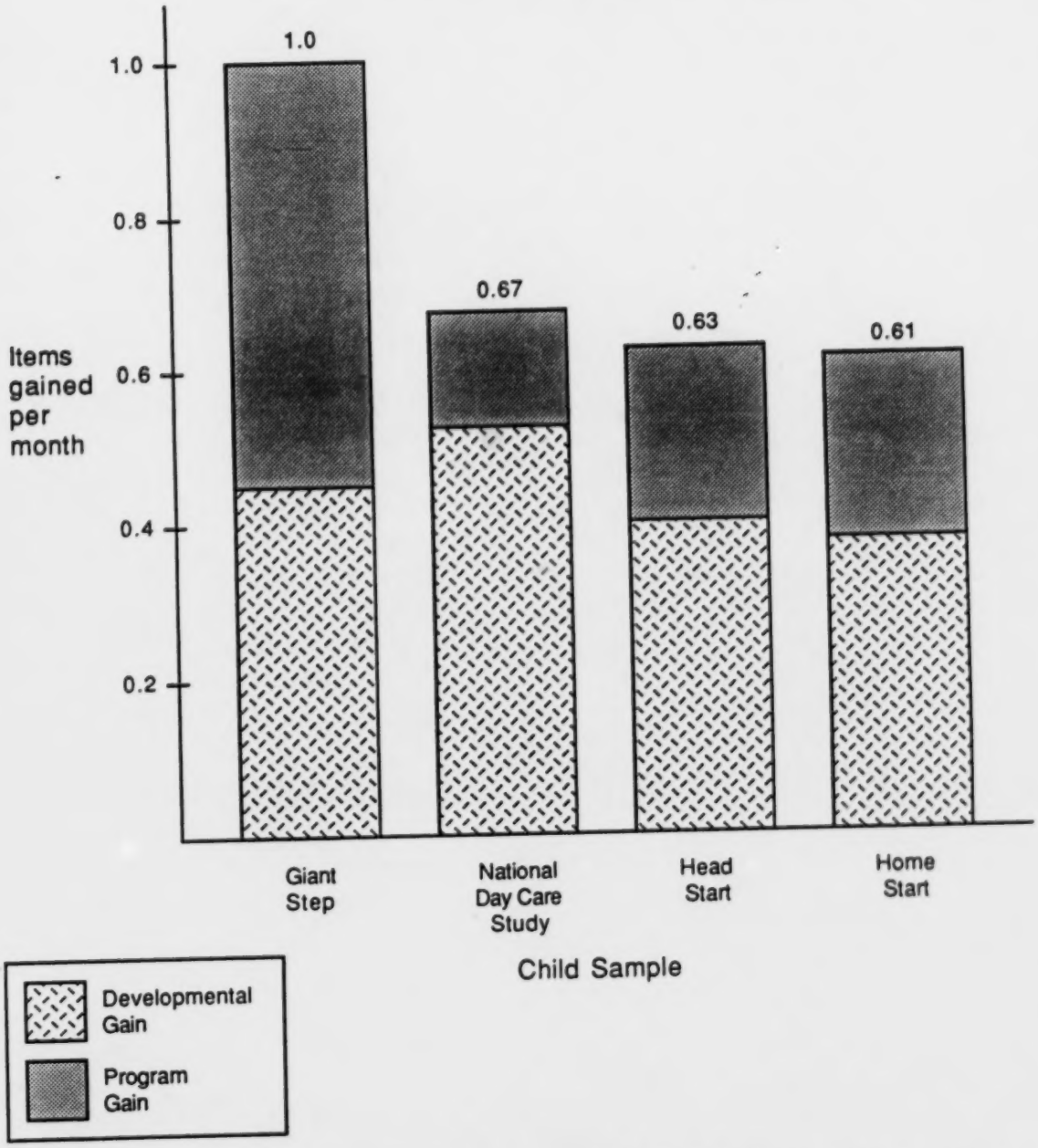
Exhibit 3.5
Gains on the PSI for ACD and BOE Programs

	Cohort I				Cohort II				Cohorts Combined			
	All Cases (n=364)	ACD (n=176)	BOE (n=188)	Signif. of BOE/ACD diff.	All Cases (n=382)	ACD (n=163)	BOE (n=219)	Signif. of BOE/ACD diff.	All Cases (n=746)	ACD (n=339)	BOE (n=407)	Signif. of BOE/ACD diff.
	$\bar{x}$ (s.d)	$\bar{x}$ (s.d)	$\bar{x}$ (s.d)		$\bar{x}$ (s.d)	$\bar{x}$ (s.d)	$\bar{x}$ (s.d)		$\bar{x}$ (s.d)	$\bar{x}$ (s.d)	$\bar{x}$ (s.d)	
Pretest	12.66 (6.3)	12.11 (6.5)	13.17 (6.0)	n.s.	13.14 (6.7)	13.52 (6.9)	12.85 (6.5)	n.s.	12.90 (6.5)	12.79 (6.7)	13.00 (6.3)	n.s.
Posttest	17.81 (6.5)	18.15 (6.4)	17.48 (6.7)	n.s.	19.05 (6.7)	20.06 (6.8)	18.31 (6.6)	p <.05	18.44 (6.7)	19.07 (6.7)	17.93 (6.6)	p <.05
Items gained	5.15 (5.2)	6.04 (5.2)	4.31 (5.1)	p <.01	5.92 (5.2)	6.54 (6.1)	5.45 (4.3)	p =.05	5.54 (5.2)	6.28 (5.6)	4.93 (4.7)	p <.001
Items gained/ month	0.95 (1.1)	1.16 (1.2)	0.74 (0.89)	p <.001	1.04 (0.95)	1.21 (1.2)	0.92 (0.72)	p <.01	0.94 (1.0)	1.18 (1.2)	0.84 (0.80)	p <.001
Effect size*	0.82	0.93	0.72		0.88	0.95	0.84		0.85	0.94	0.78	

* Effect size is expressed as the ratio of mean change in the PSI score to pretest standard deviation. An effect size of .3 is considered small; an effect size of .5 is considered moderate; and an effect size of .8 is considered large (Cohen, 1977).

Exhibit 3.6

Comparison of Monthly Gains on the Preschool Inventory by Giant Step Children with Monthly Gains by Children in other Early Childhood Programs*



*These numbers are taken from several reports of the National Home Start Evaluation (High/Scope Educational Research Foundation) and from Children at the Center, the Final Report of the National Day Care Study (Abt Associates, Inc.).

Exhibit 3.7

PSI Gains over Six Months of Testing for Each PGS Center

Cohorts 1 and 2 Combined

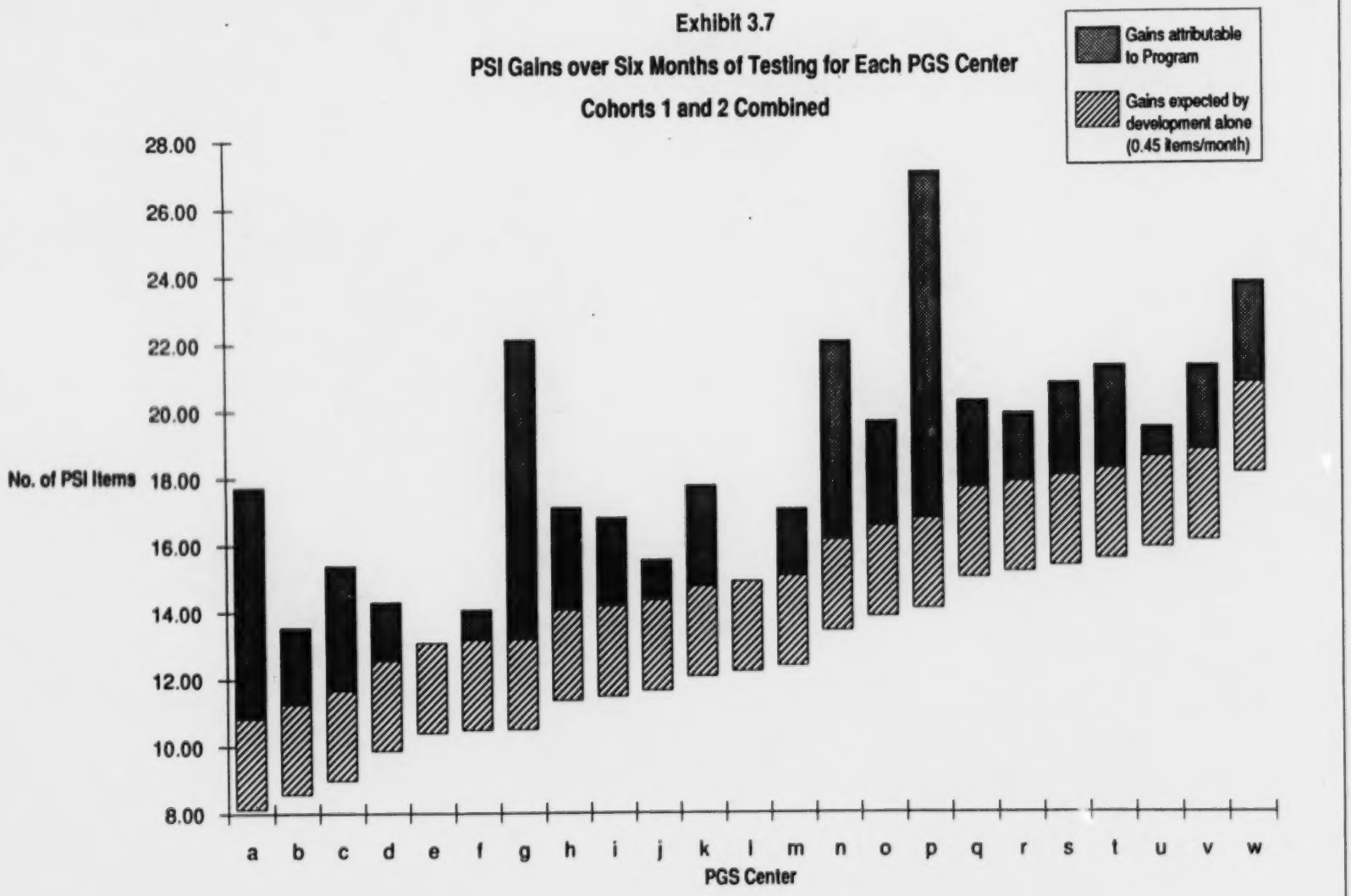


Exhibit 3.8

Pre and Post PSI Scores and Average Items Gained/Month for Each PGS Center in Cohort 1

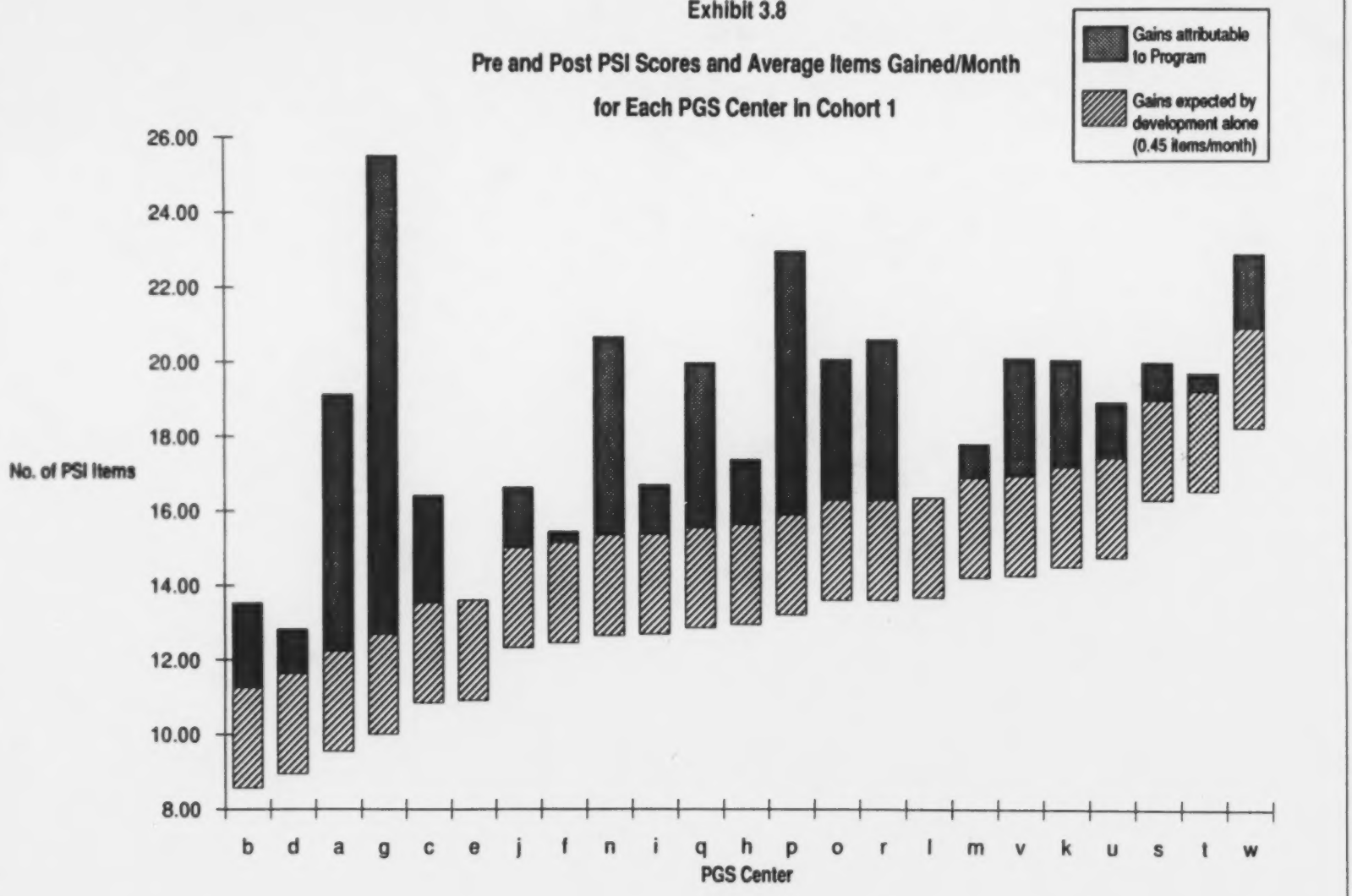
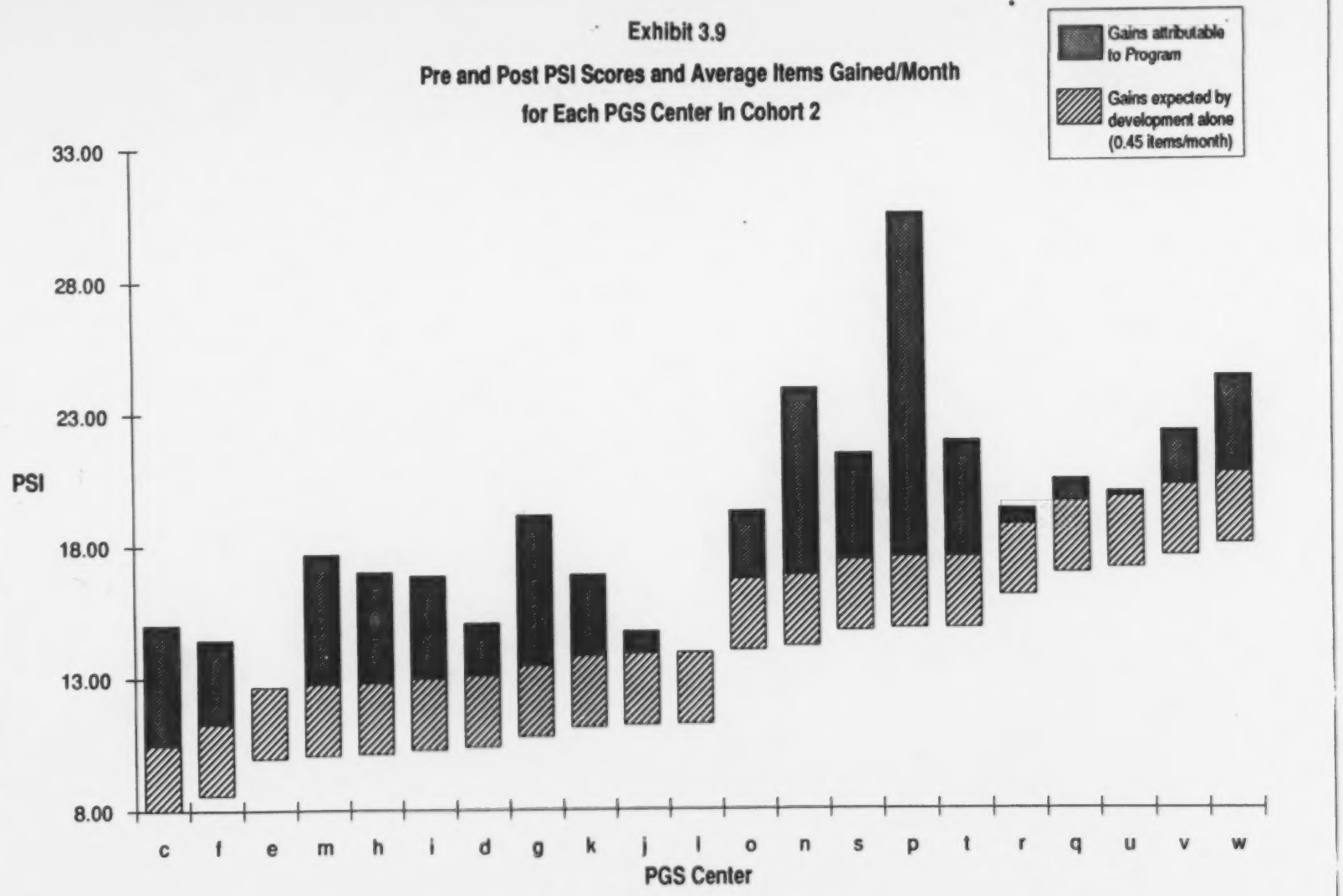


Exhibit 3.9

Pre and Post PSI Scores and Average Items Gained/Month for Each PGS Center in Cohort 2



Board of Education Giant Step programs confirms both the magnitude of PSI change and the rate of that change for children enrolled in BOE programs. In this latter data collection effort, the average gain of 4.5 items spread over approximately five and a half months suggests an increase of 0.8 items per month.

Multivariate Analyses

To explore further the predictors of children's gains on the PSI, a series of exploratory multiple regression analyses were conducted. The regressions examined simultaneously the contribution to the child's posttest PSI score of the following predictors: (1) the child's pretest PSI score; (2) a set of inter-correlated child and family background characteristics, including mother's education (categorical) and employment (binary), number of parents in the home, non-English home language, household size, and child's previous day care experience; (3) parent attitudes toward child-rearing (the PAAT Inventory score) and parent expectations for the child's future educational performance and achievement; and (4) the child's Giant Step site.

To represent site in the regressions, we followed the recommendations of Dr. David Hoaglin of Harvard University. There were 23 ACD and BOE sites in Cohort I and 22 in Cohort II. In each cohort, we constructed binary variables for each of the sites and entered these site variables together as a block. Although the regressions can demonstrate the contribution of "site" as a block, interpreting the contribution of individual sites is more complicated and ultimately would require conducting orthogonal contrasts.

Before conducting the regressions, we examined a set of potential site descriptors as possible predictors of children's performance on the PSI. Specifically, we looked at teacher qualifications, measures of curriculum and classroom environment from the Classroom Description (administered only in Cohort II), and amount of time teachers spent directly interacting with children (taken from the Staff Time Logs filled out in Cohort II). None of these measures was related to the PSI. One possible reason for the lack of correlation is that the variation in the program measures was quite narrow, as might be expected in a program like Giant Step where sites share goals, training, equipment, etc.

All regressions were conducted at the child level. Separate regression analyses were conducted for Cohort I and Cohort II. The dependent measure was the child's posttest PSI score. The child's pretest PSI always was entered first in the regression models. The block of site variables and the block of background variables

were entered the second and third steps, in both orders. Because of substantial multicollinearity among the predictor variables, the betas for the predictors change depending on the order of entry and the step in the regression.

Exhibits 3.10 and 3.11 show the regression results. The results of the regression analyses can be summarized as follows:

- The child's pretest PSI score is the single strongest predictor of the posttest score; it alone accounted for over half of the variance in posttest PSI performance.
- Site was a significant predictor of posttest scores, even when pretest scores were also accounted for. The block of site variables accounted for between 10 percent and 15 percent of the variance in PSI performance.
- Once differences in pretest scores and site are accounted for, only a few of the family background measures are significant predictors of posttest PSI performance. Across the regression equations, the background variables accounted for less than 5% of the variance in posttest scores. In both cohorts, the more powerful background predictors include home language and parent attitudes and expectations.

The home language of the child was related to PSI gains. In general, children whose home language was Spanish achieved lower gains on the PSI. However, the study offers some evidence that, in a small number of bilingual programs, where children were tested in Spanish, Spanish-speaking children made greater-than-average gains on the PSI. We hope to test this finding in a more carefully controlled study during the final year of the evaluation.

Two measures of parent attitudes were significant predictors of PSI gains. First, the children of parents who indicated that they expected their child's future school performance to be "excellent" gained more, on average, compared with children whose parents had lower expectations of their future performance. Second, parents' scores on the PAAT (a measure of child-rearing attitudes) were positively related to PSI scores. This link between parent expectations and child outcomes, when other socioeconomic differences are taken into account, is an important finding for Giant Step since parent attitudes and expectations are a focus of the family component of the program.

It should be noted that the pretest PSI score is itself correlated with a number of the background characteristics. By entering it into the equation, the other background characteristics will be less powerful than if they had been entered alone.

Exhibit 3.10

Regression Results for the PSI Posttest Score: Cohort I (n = 206)

Predictor (entered in order listed)	R-Squared	R-Squared change
I Model I		
1. Fall SPI score	.51	.51
2. Site variables (block)	.61	.10
2. Family background measures	.68	.07
II. Model II		
1. Fall PSI score	.53	.53
2. Family background measures	.59	.06
3. Site variables	.66	.07

Exhibit 3.11

Regression Results for the PSI Posttest Score: Cohort II (n = 243)

Predictor (entered in order listed)	R-Squared	R-Squared change
I **Model I**		
1. Fall SPI score	.53	.53
2. Site variables (block)	.67	.14
2. Family background measures	.70	.03
II. **Model II**		
1. Fall PSI score	.53	.53
2. Family background measures	.59	.06
3. Site variables	.70	.11

CHAPTER FOUR

CHILDREN'S SOCIAL AND EMOTIONAL FUNCTIONING IN GIANT STEP

The Giant Step program is intended to enhance children's social and emotional development, as well as their physical and cognitive development. Early in the evaluation, we reviewed a range of possible measures, including paper and pencil tests, rating scales and observation measures. The Bronson Executive Skill Profile, a complex observational measure of children's social competence and ability to undertake and complete tasks, was attractive because it deals with relevant areas of the child's development, has been used successfully in an earlier small-scale program evaluation and has been shown to be predictive of later school success. However, the expense of administering it in such a large-scale study precluded its use as the major measure for the evaluation. Nor were we certain that it could be used successfully in a large-scale evaluation. Therefore, we asked Dr. Bronson and Dr. John Love to work with us to develop a rating scale based on the observation system, that could be used by both classroom observers and teachers. This chapter describes the development and use of the Child Behavior Rating Scale and the results of its administration.

Description of the Instrument

The Child Behavior Rating Scale (CBRS) was developed for the Giant Step evaluation to rate children on their social skills with peers in the classroom, on their social skills with adults in the classroom, and on their task orientation and task strategies. The 34 items on the rating scale were based on coding categories from the Bronson Executive Skill Profile, an observation system to assess children's "executive" skills in social behavior with peers and with adults and in task behavior.

The Child Behavior Rating Scale was developed by Drs. Martha Bronson and John Love, in conjunction with AAI staff, to assess children's classroom behavior with peers, adults in the classroom, and in working with materials and on tasks. The rating scale consists of 34 items taken from coding categories in Bronson's observation system. For each item, a rating between 1 and 5 is given to indicate how closely the child's behavior resembles the behavior described in the item. In addition to the 34 individual rating items, the instrument asks the observer to estimate the child's time spent in social play with peers, working with materials, solitary fantasy play, and monitoring or uninvolved (The final instrument is shown in Exhibit 4.1).

CHILD BEHAVIOR RATING SCALE

Child ID No. ❑❑❑❑❑❑❑❑

Name of Program/School: _____

Teacher Name: _____

Child Name: _____

Child Birthdate ❑❑ ❑❑ 19 ❑❑ (month / day / year) Date of Rating ❑❑ ❑❑ 19 ❑❑ (month / day / year)

INSTRUCTIONS: The focus of this instrument is children's behavior with other children and adults in the classroom and their work with materials. Please complete all 34 items on this instrument for each child on your list by circling the response number that best indicates how frequently the child exhibits the behavior described in a particular item. The response numbers indicate the following:

1. The child never exhibits the behavior described by the item.
2. The child rarely exhibits the behavior described by the item.
3. The child sometimes exhibits the behavior described by the item.
4. The child frequently or usually exhibits the behavior described by the item.
5. The child always exhibits the behavior described by the item.

Your ratings will be more complete and accurate if you adhere to the following guidelines.

☞ Read through all 33 items in advance so that you will be familiar with the kinds of child behavior covered by the rating scale. Areas of interest include interactions with other children and adults, task behavior, and use of time.

☞ We want your ratings to be based on your personal observation and experience with the child, not on others' opinions.

☞ Treat each item independently even though some items may appear to be similar.

Developed by Martha B. Bronson & John Love for Abt Associates, Inc. in evaluating Project Giant Step, New York City, 1987.

Child ID ❑❑❑❑❑❑❑❑❑

		Never	Rarely	Sometimes	Frequently/ Usually	Always
1.	Spontaneously joins in play with two or more children who are using the same set of materials or playing the same game.	1	2	3	4	5
2.	Comforts peers in distress by doing things to make the playmate feel better.	1	2	3	4	5
3.	Willing to share toys or other things with other children when playing; does not fight or argue with playmates in disputes over property.	1	2	3	4	5
4.	Plays with other children.	1	2	3	4	5
5.	Expresses hostility to other children verbally (teasing, threats, taunts, name calling, "I don't like you,", etc.	1	2	3	4	5
6.	Expresses hostility to other children physically (hitting, pinching, kicking, pushing, biting).	1	2	3	4	5
7.	Cooperative with playmates when participating in a group play activity; willing to give and take in the group, to listen to or to help others.	1	2	3	4	5
8.	Takes turns in a game situation with toys, materials, and other things without being told to do so.	1	2	3	4	5
9.	Offers suggestions for play to other children.	1	2	3	4	5
10.	Suggestions for play are accepted by other children.	1	2	3	4	5
11.	Engages in dramatic play or pretend play with other children.	1	2	3	4	5
12.	Resolves potential social conflicts with peers without requiring help from the teacher or other adult.	1	2	3	4	5

Child ID ❑❑❑❑❑❑❑❑❑

		Never	Rarely	Sometimes	Frequently/ Usually	Always
13.	Complies with adult directives, giving little or no verbal or physical resistance, even with tasks child dislikes.	1	2	3	4	5
14.	Initiates social interactions with familiar adults by starting a conversation, or by showing the adult something.	1	2	3	4	5
15.	Observes rules and follows directions without requiring repeated reminders.	1	2	3	4	5
16.	Does not fuss when he/she has to wait briefly to get attention from teacher or other adult; child may be asked <u>once</u> to wait by the teacher or adult.	1	2	3	4	5
17.	Can deal with normal criticism or teasing by other children; does not easily cry, withdraw, pout, hit, or have a tantrum in response.	1	2	3	4	5
18.	Tries to solve a problem on own before asking for help.	1	2	3	4	5
19.	Shows satisfaction or pride when he/she completes a task or product.	1	2	3	4	5
20.	Completes learning tasks involving two or more steps (e.g., cutting and pasting) in organized way.	1	2	3	4	5
21.	Completes tasks successfully.	1	2	3	4	5
22.	Attempts new and challenging tasks.	1	2	3	4	5
23.	Concentrates when working on a task; is not easily distracted by surrounding activities.	1	2	3	4	5
24.	Responds to instructions and then begins an appropriate task without being reminded.	1	2	3	4	5
25.	Takes time to do his/her best on a task.	1	2	3	4	5

Child ID ❑❑❑❑❑❑❑❑❑

		Never	Rarely	Sometimes	Frequently/ Usually	Always
26.	Feels he or she can cope well with classroom situtations.	1	2	3	4	5
27.	Finds and organizes materials and works in an appropriate place, when activities are initiated.	1	2	3	4	5
28.	Sees own errors in a task and corrects them.	1	2	3	4	5
29.	Returns to unfinished tasks after interruption.	1	2	3	4	5
30.	Interested in trying new activities, games, projects; displays curiosity about his/her environment.	1	2	3	4	5
31.	Conveys confidence about being able to succeed at a task or in an activity.	1	2	3	4	5
32.	Shows enthusiasm for activities or tasks.	1	2	3	4	5

Time Allocation Ratings

During times that the child can choose what to do (free play or choice time), approximately what percentage of time does this child spontaneously spend in the following activities:

Social play with others _____%

Working with materials alone or with others _____%

Solitary fantasy play _____%

Monitoring environment; or otherwise uninvolved in activities _____%

100%

The rating scale was developed over the first year of the evaluation, and put into its final form for Cohort II (see discussion under **"Psychometrics"** below).

Administration of the Rating Scale

For both cohorts of Giant Step children, the rating scale was administered at both Fall and Spring, at the same time as the PSI testing. At both time-points, target children (i.e., children selected for the PSI testing) were rated by their Giant Step teacher. In addition, for Cohort I, the AAI testers also completed child ratings based on the PSI testing session and their observations of the children in the classroom.

In Cohort I, 23 Giant Step programs participated in the evaluation. Exhibit 4.2 shows the numbers of children rated by the AAI testers and the Giant Step teachers at both the Fall and Spring testing. In Cohort II, 22 Giant Step centers participated in the evaluation, including ten ACD programs and 12 BOE programs. In Cohort II, only the Giant Step teachers conducted ratings on the children; the AAI testers did not do any ratings. The decision to use only teacher ratings for Cohort II was made when the results of the analysis of Cohort I ratings showed that teachers were able to rate many more behaviors than testers (who had only a limited sample of behavior on which to base the rating) and that there was reasonable agreement between teachers and testers on rating scale items (See Appendix table A-10). As Exhibit 4.2 shows, the Giant Step teachers completed the CBRS on 569 children in the Cohort II Fall data collection, and 537 children in the Spring data collection.

The use of the rating scale in the first year of the evaluation was essentially a field test of the instrument, since that constituted its first large-scale administration. (During instrument development, a draft version of the CBRS had been pretested by a set of Head Start teachers, and minor modifications were made to the instrument as a result of the pretest.) Using the Cohort I data, we examined the psychometrics of the rating scale in the following ways:

- examination of item variability;
- examination of patterns of missing data;
- comparison of ratings of the same children by AAI testers and by PGS teachers (inter-rater reliability); and
- examination of relationship between fall and spring ratings of the same children.

Exhibit 4.2
Numbers of Children Rated with the *Child Behavior Rating Scale*

Cohort I				Cohort II	
Fall 1987		Spring 1988		Fall 1988	Spring 1989
Giant Step Teachers	Abt Testers	Giant Step Teachers	Abt Testers	Giant Step Teachers	Giant Step Teachers
382	454	276	364	569	537

As a result of these analyses (described in Appendix A), modifications were made in the rating scale before it was used with Cohort II children.

Findings

Fall to Spring Changes

Exhibit 4.3 shows the mean scores on the Child Behavior Rating Scale from the fall and spring, for both Cohorts I and II. Fall to spring gains were also computed for children with ratings at both timepoints. Exhibit 4.4 shows that these children were not significantly different from the children dropped from the analysis because they were rated in the fall only. For both cohorts, the scores increased over the Giant Step year. The increase occurred in all three areas of the scale: social interactions with peers, social interactions with adults and task behavior.

In order to assess the significance of the children's gains on the rating scale, we conducted analyses similar to those used with the PSI. First, the effect size was computed for the gains. As Exhibit 4.3 shows, the effect sizes were only in the small-to-moderate range, for both cohorts.

Second, we tried to assess the contribution of the program to children's gains. Because the Child Behavior Rating Scale is a new instrument developed for the evaluation, it was not possible to follow precisely the strategies we used with the PSI. However, we did establish a norm for the amount of change that could be expected on the basis of age alone, using pretest scores. To establish the norm, we used the baseline CBRS for Cohort II as a norming sample. We chose Cohort II to develop the norming sample since we regarded the first year as a developmental year for the instrument. The instrument as it was used for Cohort II was a stronger, more reliable measure. The pretest scores for Cohort II showed that children increased, on average, .029 points for each month of age. At post-test, the average gain of .04 points per month was larger than would be expected on the basis of development. While the expected developmental gain over the program year was .16 points, Giant Step children gained .22 points, a significant increase over developmental gain. Children showed gains in all three areas measured by the rating scale: social behavior with adults; social behavior with other children and skills involved in organizing and completing classroom tasks (Exhibit 4.4).

Exhibit 4.3
Summary Scores from the *Child Behavior Rating Scale*[a] at Fall and Spring for Cohorts I and II

	Cohort I (n=229)				Cohort II (n=450)			
	Overall Rating	Interactions with Peers	Interactions with Adults	Task Behavior	Overall Rating	Interactions with Peers	Interactions with Adults	Task Behavior
	$\bar{x}$ (s.d.)	$\bar{x}$ (s.d.)	$\bar{x}$ (s.d.)	$\bar{x}$ (s.d.)	$\bar{x}$ (s.d.)	$\bar{x}$ (s.d.)	$\bar{x}$ (s.d.)	$\bar{x}$ (s.d.)
Pretest (fall)	2.96[b] (.58)	3.05 (.56)	2.80 (.65)	2.94 (.71)	3.60[c] (.63)	3.59 (.64)	3.47 (.70)	3.64 (.70)
Posttest (spring)	3.15 (.46)	3.17 (.51)	2.88 (.53)	3.23 (.52)	3.82 (.57)	3.76 (.59)	3.69 (.65)	3.90 (.66)
Fall-Spring Gain	0.20 (.52)	0.12 (.55)	0.08 (.63)	0.30 (.66)	0.22 (.48)	0.17 (.51)	0.22 (.61)	0.26 (.55)
Gain/month	0.04 (.14)	0.02 (.14)	0.01 (.16)	0.06 (.16)	0.04 (.17)	0.04 (.17)	0.04 (.19)	0.04 (.19)
Effect size[d]	0.33	0.21	0.12	0.41	0.35	0.27	0.31	0.37

[a] Ratings by Giant Step Teachers

[b] 4 point scale (1 - 4)

[c] 5 point scale (1 - 5)

[d] Effect size is expressed as the ratio of mean change in the PSI score to pretest standard deviation. An effect size of .3 is considered small; an effect size of .5 is considered moderate; and an effect size of .8 is considered large (Cohen, 1977).

Exhibit 4.4

Mean Pretest (Fall) Summary Scores from the *Child Behavior Rating Scale* for Children with and without Posttest (Spring) Ratings

	Cohort I		Cohort II	
	$\bar{x}$	(n)	$\bar{x}$	(n)
All children	2.95	(382)	3.59	(527)
Non-attrited children (with posttest ratings)	2.96	(229)	3.60	(450)
Attrited children (missing posttest ratings)	2.93	(153)	3.56	(71)
Significance of difference between attrited and non-attrited children	n.s.		n.s.	

Center Differences

Exhibits 4.5 and 4.6 show the mean scores for Fall and Spring, and the change in score, for each Giant Step program in the Cohort I sample. Exhibit 4.7 shows the means and changes for the Cohort II sample. In virtually all of the programs, child ratings increased from the Fall to the Spring.

Exhibit 4.8 shows the gain per month for each of the Giant Step programs in Cohort II (ranked in terms of their baseline child rating). A number of programs showed substantially larger gains than expected by development alone. Other programs showed basically the gain expected due to the children's age-related development, and a few showed gains below that expected.

ACD/BOE Differences

Exhibit 4.9 shows the summary rating scores for children in ACD and BOE centers. In Cohort I, there was basically no difference between ACD and BOE programs on the overall average rating score. In Cohort II, BOE ratings were significantly higher at the Spring data collection; as a consequence, the change from Fall to Spring was significantly higher for BOE programs.

Relationship of the Rating Scale to the PSI

The rating scale was included in the battery of child tests to broaden the range of child skills being assessed. It was developed to evaluate social skills and task strategies relevant to school success. It was, therefore, of some interest to test the validity of the assumptions made by examining the relationship of the ratings to PSI scores.

For both cohorts of children, the overall rating score correlated significantly with the PSI (Exhibit 4.10). Correlations were strongest for task behavior, as might have been expected. In both cohorts, correlations were higher at Fall than at Spring.

Exhibit 4.11 compares, for Cohort I, the correlation of the PSI with the ratings by the Giant Step teachers and the AAI testers. The correlations are significant for both sets of raters.

Exhibit 4.5

Cohort I Means for Fall and Spring Summary Rating Scores by Giant Step Teachers for Each Giant Step Program*

	Overall Average Rating			Average Rating on Peer Interaction			Average Rating on Interactions with Adults			Average Rating on Task Behaviors		
Program	Fall	Spring	Difference	Fall	Spring	Difference	Fall	Spring	Difference	Fall	Spring	Difference
ACD 1	2.94	2.82	-.12	3.12	2.91	-.20	2.80	2.65	-.15	2.84	2.82	-.02
2	3.42	3.22	-.20	3.48	3.15	-.33	3.31	3.29	-.02	3.40	3.25	-.15
3	2.99	3.18	+.19	3.07	3.12	+.05	3.15	2.97	-.18	2.86	3.29	+.43
4	2.61	2.89	+.28	2.76	3.02	+.26	2.44	2.56	+.32	2.511	2.93	+.42
5	3.09	3.28	+.19	3.18	3.37	+.19	2.60	2.99	+.39	3.18	3.31	+.13
6	2.79	3.35	+.56	2.90	3.20	+.30	2.94	3.45	+.51	2.66	3.40	+.77
BOE 1	3.23	3.01	-.22	3.20	2.78	-.42	3.11	2.75	-.36	3.36	3.31	-.05
2	2.97	2.96	-.01	3.10	3.04	-.06	2.87	2.60	-.27	2.90	3.02	+.12
3	3.01	3.30	+.29	3.01	3.28	+.27	2.98	2.85	-.13	3.02	3.45	+.43
4	2.85	3.41	+.56	3.04	3.32	+.28	2.70	3.18	+.38	2.76	3.53	+.77
5	2.92	3.22	+.30	2.89	3.21	+.32	2.71	2.75	+.04	3.01	3.37	+.36
6	2.61	3.33	+.72	2.84	3.38	+.54	2.71	2.87	+.16	2.42	3.44	+1.02
7	2.87	3.23	-.36	3.11	3.44	+.33	2.78	2.94	+.16	2.72	3.20	+.48
8	3.12	3.07	-.05	3.26	3.10	-.16	2.86	2.76	-.10	3.10	3.15	+.05
9	2.80	3.04	+.24	2.91	2.92	+.01	2.70	2.96	+.26	2.75	3.15	+.40
10	2.64	3.03	+.39	2.90	3.08	+.18	2.59	2.74	+.15	2.46	3.09	+.63

*Centers with missing data for Fall 1987 or Spring 1988 were excluded from the table.

Exhibit 4.6
Cohort I Means for Fall and Spring Child Ratings by Testers for Each Giant Step Program in the Evaluation

	Overall Average Rating		Average Rating on Peer Interactions		Average Rating on Interactions with Adults		Average Rating on Task Behaviors	
Giant Step Program	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
ACD 1	3.18	3.03	3.25	3.03	3.06	2.95	3.17	3.06
2	2.56	3.20	2.55	3.12	2.93	3.05	2.36	3.29
3	3.12	3.63	3.15	3.49	3.09	3.82	3.09	3.63
4	3.04	3.31	2.95	3.36	2.92	3.20	3.15	3.30
5	3.00	3.37	3.07	3.52	2.80	2.79	3.00	3.46
6	2.92	2.96	3.07	3.52	2.80	2.79	3.00	3.46
7	3.01	3.09	3.20	3.15	3.08	2.97	2.84	3.10
8	2.84	3.11	2.95	3.30	2.86	2.83	2.72	3.12
9	2.96	3.18	3.25	3.20	2.68	2.98	2.82	3.23
10	3.10	3.06	3.01	3.21	3.06	2.86	3.21	3.03
11	3.38	3.38	3.38	3.38	3.20	2.72	3.14	3.18
BOE 1	3.12	3.18	3.14	3.26	3.26	3.05	3.06	3.23
2	2.92	3.48	3.05	3.43	2.90	3.69	3.83	3.44
3	3.10	3.32	3.35	3.41	2.85	3.23	3.02	3.32
4	2.70	3.33	3.05	3.33	2.58	3.26	2.48	3.35
5	2.80	3.35	2.85	3.52	2.64	3.37	2.82	3.22
6	2.86	3.06	2.85	3.01	2.68	2.87	2.93	3.16
7	3.20	3.06	3.15	3.23	3.42	2.90	3.16	3.02
8	2.58	2.29	2.87	2.50	2.43	1.92	2.43	2.28
9	2.81	3.21	3.08	3.34	2.90	3.09	2.57	3.16
10	2.94	2.97	3.27	3.09	2.80	2.91	2.65	2.91
11	2.49	3.10	2.60	3.24	2.40	2.87	2.44	3.09
12	2.63	3.11	2.95	3.17	2.49	3.49	2.42	2.96

Exhibit 4.7

Cohort II Means for Fall 1988 and Spring 1989 Summary Rating Scores by Teachers for Each Giant Step Program*

Giant Step Program	Overall Average Rating			Average Rating on Peer Interaction			Average Rating on Interactions with Adults			Average Rating on Task Behaviors		
	Fall	Spring	Difference	Fall	Spring	Difference	Fall	Spring	Difference	Fall	Spring	Difference
ACD 1	3.41	3.42	+.01	3.38	3.35	-.03	3.27	3.40	+.13	3.48	3.48	.00
3	3.42	4.04	+.62	3.48	3.97	+.49	3.47	4.15	+.68	3.36	4.06	+.70
4	3.75	3.81	+.06	3.84	3.76	-.08	3.61	3.82	+.21	3.72	3.84	+.12
6	3.44	3.41	-.03	3.49	3.60	+.11	3.30	3.11	-.19	3.46	3.37	-.09
7	3.44	3.58	+.14	3.38	3.43	+.05	3.21	3.53	+.32	3.56	3.72	+.16
8	3.77	3.73	-.04	3.96	3.69	-.27	3.59	3.63	+.04	3.68	3.79	+.11
9	3.86	3.88	+.02	3.85	3.86	+.01	3.73	3.67	-.06	3.91	3.98	+.07
10	3.41	3.59	+.18	3.28	3.45	+.17	3.53	3.74	+.21	3.47	3.65	+.18
11	3.76	3.77	+.01	3.52	3.63	+.11	3.78	3.47	-.31	3.94	3.99	+.05
BOE 1	3.89	4.19	+.30	3.86	4.00	+.14	3.72	3.98	+.26	3.90	4.41	+.51
2	3.60	3.84	+.24	3.58	3.89	+.31	3.54	3.46	-.08	3.65	3.92	+.27
3	3.59	3.80	+.21	3.50	3.61	+.11	3.52	3.61	+.09	3.69	4.02	+.33
4	3.48	3.98	+.50	3.59	3.99	+.40	3.19	3.73	+.52	3.48	4.07	+.59
5	3.73	4.13	+.40	3.66	4.00	+.34	3.58	3.88	+.30	3.83	4.33	+.50
6	3.56	4.10	+.54	3.51	4.09	+.58	3.57	4.09	+.52	3.60	4.10	+.50
7	3.50	3.61	+.11	3.40	3.55	+.15	3.40	3.47	+.07	3.62	3.71	+.09
8	2.84	3.54	+.70	2.88	3.60	+.72	2.70	3.38	+.68	2.85	3.54	+.69
9	3.60	3.52	-.08	3.73	3.67	-.06	3.30	3.28	-.02	3.58	3.47	-.11
10	4.00	3.87	-.13	3.92	3.74	-.18	3.74	3.69	-.05	4.15	4.04	+.11
11	3.35	4.00	+.65	3.16	3.77	+.61	3.31	4.01	+.70	3.52	4.19	+.67
12	3.28	3.78	+.50	3.41	3.84	+.43	3.15	3.76	+.61	3.23	3.74	+.51

*One center with missing data for Fall 1988 or Spring 1989 has been excluded from the table.

Exhibit 4.8

Change Per Month on CBRS for Each Giant Step Program in Cohort II (Expected change = .029)

Program	Fall Average Score (5 point scale)	Change/Month
BOE 8	2.84	.193
BOE 12	3.28	missing
BOE 11	3.35	.097
ACD 10	3.41	.032
ACD 1	3.41	.011
ACD 3	3.42	.075
ACD 7	3.44	.061
ACD 6	3.44	.012
BOE 4	3.48	.133
BOE 7	3.50	.006
BOE 6	3.56	.025
BOE 3	3.59	.023
BOE 9	3.60	.053
BOE 2	3.60	.065
BOE 5	3.73	.065
ACD 4	3.75	.029
ACD 11	3.76	-.079
ACD 8	3.79	-.085
BOE 1	3.86	.026
ACD 9	3.86	.027
BOE 10	4.00	-.019

Exhibit 4.9
Summary Scores from *Child Behavior Rating Scale* for ACD and BOE Programs for Cohorts I and II
(ratings by Giant Step teachers)

	Cohort I			Cohort II		
Summary Rating Score	**ACD**	**BOE**		**ACD**	**BOE**	
Fall Scores	(n=107)	(n=122)	Significance of Difference	(n=199)	(n=251)	Significance of Difference
Overall average	2.99 (.51)	2.93 (.63)	n.s.	3.62 (.62)	3.57 (.63)	n.s.
Peer interactions	3.09 (.52)	3.04 (.60)	n.s.	3.64 (.61)	3.56 (.66)	n.s
Interactions with adults	2.80 (.56)	2.80 (.72)	n.s.	3.52 (.66)	3.43 (.73)	n.s.
Task behavior	2.97 (.64)	2.90 (.77)	n.s.	3.65 (.69)	3.63 (.71)	n.s.
Spring Scores						
Overall average	3.13 (.45)	3.17 (.47)	n.s.	3.71 (.60)	3.90 (.54)	$p < .001$
Peer interactions	3.16 (.47)	3.17 (.55)	n.s	3.68 (.58)	3.83 (.58)	$p < .01$
Interactions with adults	2.92 (.54)	2.83 (.53)	n.s.	3.62 (.67)	3.74 (.62)	n.s.
Task behavior	3.17 (.50)	3.20 (.54)	n.s.	3.77 (.69)	4.00 (.62)	$p < .001$
Fall-Spring Difference						
Overall average	0.14 (.52)	0.25 (.53)	n.s.	0.09 (.43)	0.32 (.50)	$p < .001$
Peer interactions	0.07 (.56)	0.15 (.53)	n.s.	0.04 (.42)	0.27 (.56)	$p < .001$
Interactions with adults	0.13 (.51)	0.04 (.72)	n.s.	0.10 (.60)	0.31 (.61)	$p < .001$
Task behavior	0.20 (.64)	0.38 (.67)	$p < .05$	0.12 (.52)	0.37 (.55)	$p < .001$
Change/month in overall average	0.03 (.12)	0.05 (.15)	n.s.	0.01 (.18)	0.06 (.16)	$p < .01$

Exhibit 4.10

Correlations of PSI Scores with Summary Scores from the Child Behavior Rating Scale (Ratings by Giant Step Teachers)

	Cohort I		Cohort II	
Summary Rating Scores	Fall '87 (n=382)	Spring '88 (n=276)	Fall '88 (n=521)	Spring '89 (n=391)
Overall average rating	.30**	.21**	.34**	.13*
Average rating for peer interactions	19**	.14	.30**	.11
Average rating for interactions with adults	.24**	.14	.29**	.04
Average rating for task behavior	.32**	.21**	.33**	.15*

* Significant at .01 level.
** Significant at .001 level.

Exhibit 4.11

Correlations of the PSI and Child Ratings by Giant Step Teachers and Abt Testers for Cohort I Children

	Fall Ratings		Spring Ratings	
	Teachers (n=382)	Teachers (n=454)	Teachers (n=382)	Teachers (n=364)
Overall Average Rating	.30**	.34**	.21**	.25**
Average Rating for Peer Interactions	.19**	.29**	.14	.16*
Average Rating for Interactions with Adults	.24**	.22**	.14	.03
Average Rating for Task Behavior	.32**	.32**	.21**	.31**

** 1-tailed significance <.001

CHAPTER FIVE

CHANGES IN GIANT STEP FAMILIES

Project Giant Step stresses the importance and positive effects of parent involvement in the program and the many forms that such involvement can take, including parent participation in the classroom; parent activities in support of the program; and parent education. Our evaluation focused on changes in parents' attitudes towards and expectations of their children, their expectations of the program's effect on their children and on parent involvement in and satisfaction with the program, as measured by their responses to questions in the Parent As a Teacher Inventory (PAAT) and to other interview questions.

The Parent As A Teacher (PAAT) Inventory

Cohort I

Parents of children in Cohort I were interviewed during their child's Giant Step year and again during the kindergarten year. At both times, the PAAT Inventory was administered as part of the interview. The PAAT, developed by Robert Strom, consists of statements relating to parent-child interaction and provides information in five areas: (1) Creativity--encouragement of the child's imagination and curiosity; (2) Frustration--absence of frustration or irritation with the child's demands for attention and other commonplace behavior; (3) Control--willingness to allow the child choice and initiative, rather than to attempt to structure the child's behavior; (4) Play--understanding of the developmental function of play and willingness to participate in play with the child; and (5) Teaching--confidence in the parent's role as a teacher and understanding the learning processes in young children. Parents are read each statement and asked to indicate how well it characterizes their own attitudes and practices relevant to childrearing. The version of the PAAT used in the Giant Step evaluation consists of 35 items, seven in each of the five categories above.

As we indicated earlier, the PAAT was administered as part of a telephone interview with parents. Parents were generally cooperative and, in both years, there was a very low rate of refusal. We did, however, experience increasing problems with disconnected and unlisted numbers, which reduced the response rate.

In analyzing the PAAT data, five subscores are computed by adding up the item totals for the relevant items. Exhibit 5.1 lists Cohort I scores on the PAAT at baseline (fall of the Giant Step year) and at followup (winter of the kindergarten year). PAAT scores for Cohort I parents increased slightly between baseline and follow-up midway through the kindergarten year. The small increase held for each of the five subscores, as well as the overall PAAT score.

There were no differences on the PAAT between parents of children in ACD centers and parents of children in BOE centers, either at baseline or in the follow-up kindergarten interviews (Exhibit 5.2).

Cohort II

Exhibit 5.3 presents the summary scores for Cohort II. As can be seen by comparing Exhibits 5.1 and 5.3, the overall PAAT score was somewhat higher for Cohort II than for Cohort I--2.92 compared with 2.64. The five subscores also were somewhat higher for Cohort II. The pattern across the subscores was similar across the two cohorts, with "Play" the highest subscore at pretest in both cohorts and "Control" the lowest.

Relationship to Child Outcomes

Mothers' PAAT scores were related to their children's PSI scores but not to teachers' ratings of children on the CBRS (Exhibit 5.4). For Cohort I, PSI scores correlated with both baseline and follow-up PAAT scores.

Parent Expectations

One important area in which parents' attitudes showed little change was in their expectations for children's school success. This was because most parents came to the program with high expectations. Over 85 percent expected their child to do well, or very well, in school; this increased to over 90 percent in the kindergarten year (Exhibit 5.5). Nearly all believed their child would graduate from high school; a majority thought their child should go to college. The program supports and encourages these expectations, so that parents remained hopeful as their children entered school.

Exhibit 5.1

Baseline (PGS) and Follow-up (Kindergarten) Parent as a Teacher Inventory (PAAT) Scores and Change Over Time for Cohort I

PAAT Subscore	Baseline '87-'88 (n=309)		Followup '88-'89 (n=248)		Significance of Change
	$\bar{x}$[a]	s.d.	$\bar{x}$[a]	s.d.	
Play	2.98[b]	.37	3.29[b]	.44	$p < .001$
Teaching	2.83	.39	3.08	.42	$p < .001$
Control	1.97	.48	2.20	.46	$p < .001$
Creativity	2.56	.40	2.89	.47	$p < .001$
Frustration	2.83	.38	3.07	.46	$p < .001$
Total PAAT	**2.63**	**.26**	**2.91**	**.32**	**$p < .001$**

[a]For the analyses, all items were coded as to follow the same direction, with a higher score indicating a more positive response.

[b]Item values range from 1 to 4.

Exhibit 5.2

ACD/BOE Differences on the PAAT

	Cohort I			Cohort II		
PAAT Scores	**ACD**	**BOE**	**Significance**	**ACD**	**BOE**	**Significance**
Baseline (Fall of PGS Year)	(n=154)	(n=155)		(n=178)	(n=209)	
Overall Score	2.61	2.65	n.s.	2.91	2.93	n.s.
Play	2.93	3.01	n.s.	3.30	3.32	n.s.
Teaching	2.82	2.84	n.s.	3.08	3.13	n.s.
Control	1.96	1.98	n.s.	2.16	2.18	n.s.
Creativity	2.55	2.57	n.s.	2.89	2.88	n.s.
Frustration	2.81	2.85	n.s.	3.17	3.11	n.s.
Follow-up (Kindergarten)	(n=123)	(n=125)				
Overall Score	2.88	2.95	n.s.			
Play	3.26	3.31	n.s.			
Teaching	3.01	3.14	p<.05			
Control	2.16	2.25	n.s.			
Creativity	2.91	2.86	n.s.			
Frustration	3.02	3.13	n.s.			

Exhibit 5.3

Baseline (PGS) PAAT Scores for Cohort II
(n=413)

Subscore	$\bar{x}$[a]	s.d.
Play	3.31[b]	.42
Teaching	3.09	.45
Control	2.17	.47
Creativity	2.89	.45
Frustration	3.09	.44
Total PAAT	2.92	.30

[a]For the analyses, all items were coded so as to follow the same direction, with a higher score indicating a more positive response.

[b]1-tailed significance: .001

Exhibit 5.4

Correlations of PAAT Scores with Child Outcome Measures[a]

	Cohort I				Cohort II			
	PSI		(CBRS) Teacher Rating		PSI		(CBRS) Teacher Rating	
PAAT Scores	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Baseline (Fall of PGS Year)	(n=309)	(n=260)	(n=257)	(n=186)	(n=386)	(n=345)	(n=275)	(n=341)
Overall PAAT	.27**	.29**	.10	.01	.18**	.05	.09	.09
Subscores								
Play	.18*	.22**	.06	-.03	.09	-.05	.09	.13*
Teaching	.23**	.28**	.13	.04	.16*	.08	.09	.09
Control	.18*	.19*	.01	.01	.20*	.16*	.03	.07
Creativity	.20**	.19*	.10	.08	.23**	.22**	.05	-.02
Frustration	.05	.06	.02	-.13	-.03	-.16*	.02	.01
Follow-up (Kindergarten)	(n=248)	(n=215)	(n=198)	(n=149)				
Overall PAAT	.26**	.27**	.23**	.12				
Subscores								
Play	.27**	.30**	.19*	.15				
Teaching	.22*	.20*	.17	.14				
Control	.09	.13	.16	-.05				
Creativity	.18*	.19*	.10	.12				
Frustration	.18*	.14	.11	.10				

[a]Case by case correlations: n = 314 for Cohort I baseline PAAT; n = 248 for Cohort I followup PAAT; n = 413 for Cohort II baseline PAAT.

* Significant at $p < .01$.

** Significant at $p < .001$.

Exhibit 5.5

Parents' Educational Expectations
(Cohort I)

	How far should my child go in school?	
	Winter of Giant Step Year (n=327)	Winter of Kindergarten (n=256)
11th grade or less	4.6%	5.2%
Finish high school	15.3	20.0
Vocational training	0.3	0.4
Go to college	29.7	19.6
Finish college	36.4	42.8
Graduate school	13.8	12.0
	How well do I expect my child to do in school?	
	Winter of Giant Step Year (n=327)	**Winter of Kindergarten (n=256)**
Above average	13.0%	9.1%
Well	40.5	44.5
Excellent	46.5	46.1

Parents' Expectations of the Giant Step Program

Parents were very satisfied with Giant Step's program for their children. The majority of Giant Step parents enrolled children in the program hoping it would prepare them for school by improving their academic and social skills (Exhibit 5.6). A year later, two-thirds felt that Giant Step had improved children's academic skills and almost 80 percent felt the program had improved children's social skills (Exhibit 5.7). Almost all felt the program had prepared children for kindergarten and almost half reported that the child had visited a kindergarten class during the Giant Step year (Exhibit 5.8). One-quarter of the Cohort 1 parents reported that a kindergarten teacher had visited their child's Giant Step classroom (Exhibit 5.9). Most parents felt that Giant Step had helped prepare children for kindergarten either by teaching them the appropriate skills or by helping them to understand what would be expected of them.

Parent Involvement

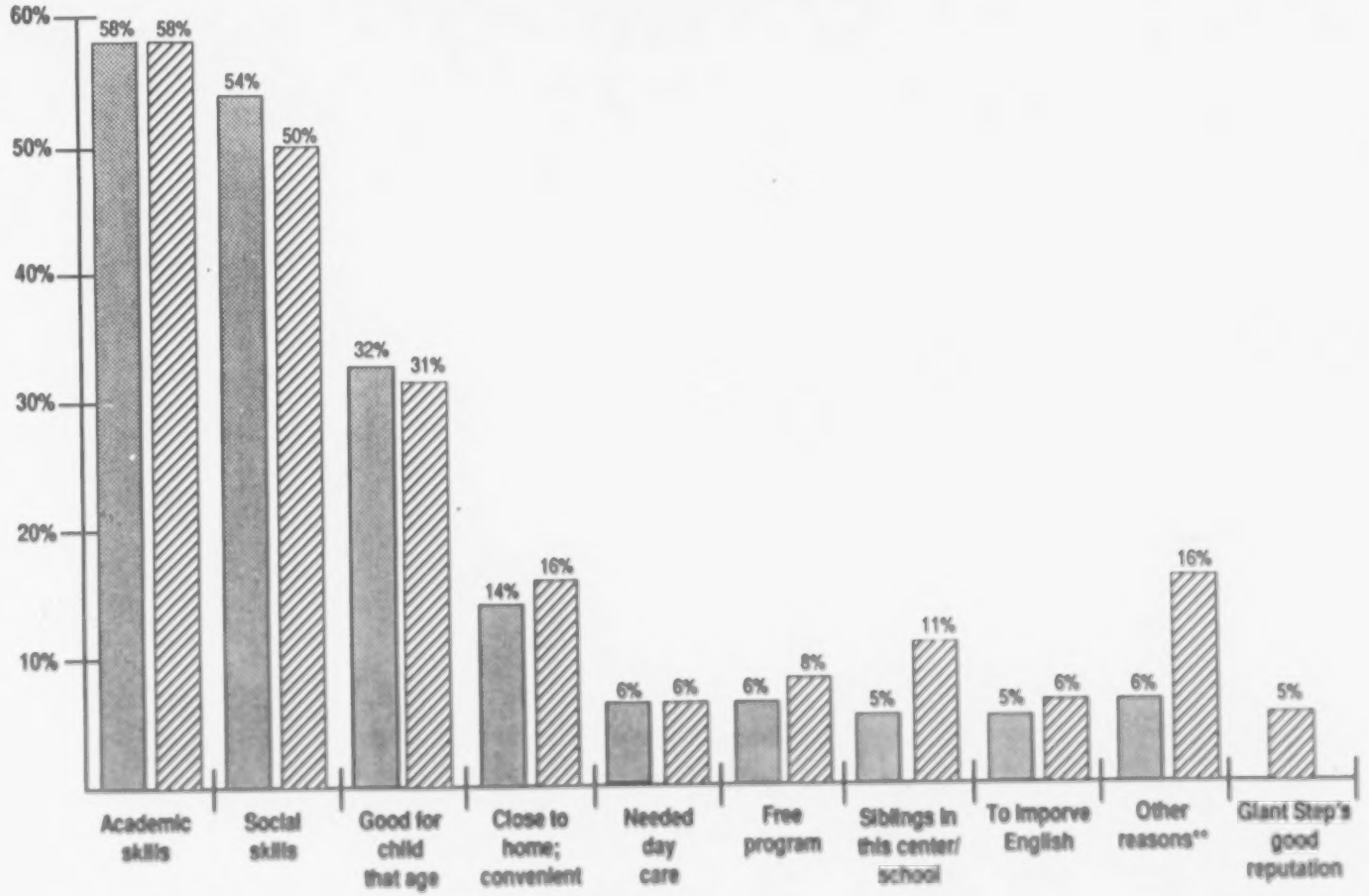
Project Giant Step stresses the importance and positive effects of parent involvement in the program and the many forms that such involvement can take, including parent participation in the classroom, parent activities in support of the program, and parent education.

The program was successful in involving parents, both in activities with their children and in educational activities directed at parents. Eighty percent of parents volunteered in the classroom and accompanied children on field trips. Seventy percent attended educational classes or events organized for parents by the program (Exhibit 5.10).

In virtually all sites, staff began the year and initiated contact with parents by holding an Open House at the school or center. These were well-attended, and two months into the program year most classroom staff had met all of the parents of children in their class. These early contacts helped to draw families into the program and probably account for the high level of involvement in the program's activities. Program staff and parents themselves organized social and recreational events for families, in which almost two-thirds of parents participated. In addition, almost half of the parents helped recruit other families into the program.

Exhibit 5.6

Reasons Parents Enrolled Children in Giant Step



* Multiple responses were possible

** Other reasons include: "child wanted to go to school"; "parent liked atmosphere, teachers, facilities"; "program located in a public school"; etc.

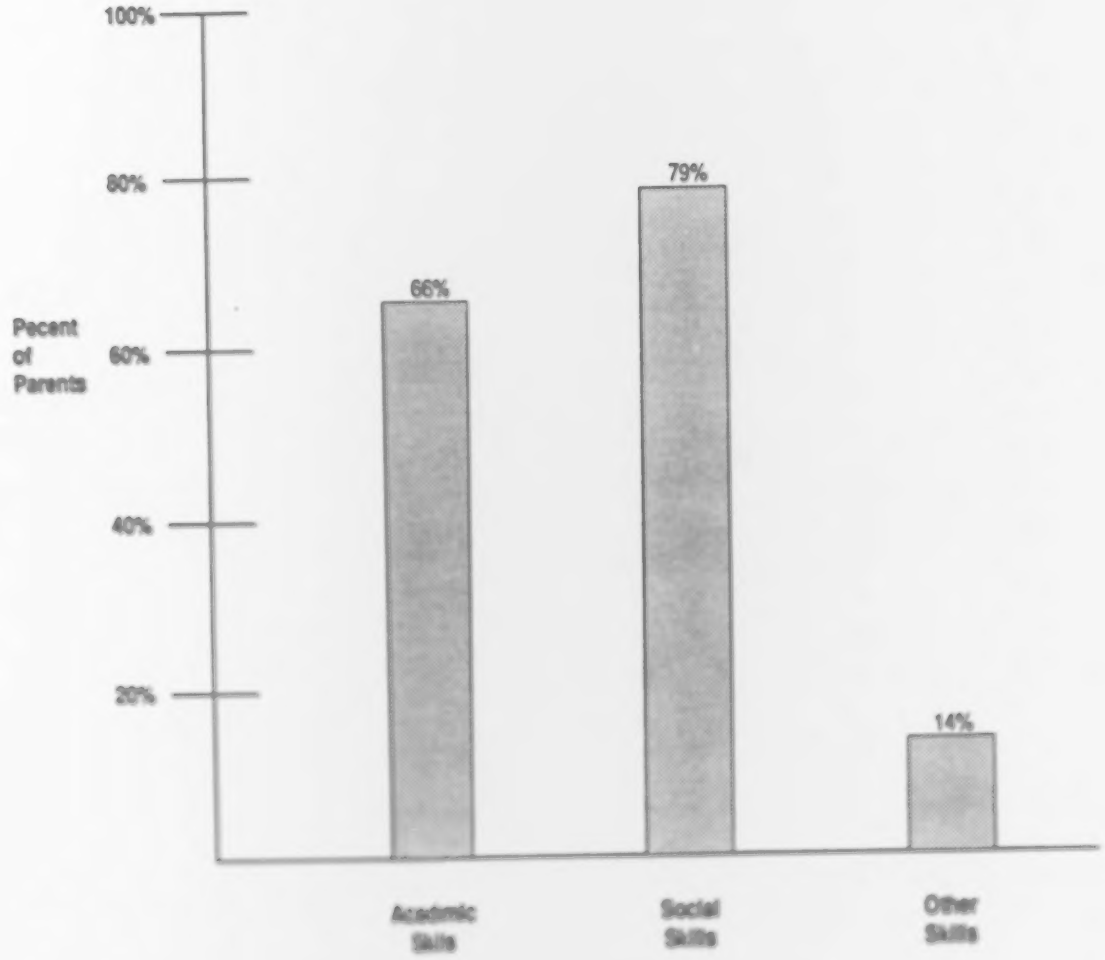
Source: 1987 - 88 and 1988 - 89 Parent Interviews

= Cohort I year 1 (1987 - 88); n = 377

= Cohort II year 1 (1988 - 89); n = 423

Exhibit 5.7

Most Important Skills Giant Step Taught Children



Source: 1998 - 99 Parent Interviews, Cohort I, Year 2 N = 250

Exhibit 5.8

Did Giant Step teach child things he or she needed to know for kindergarten?

	Number	Percent
Yes	243	95.7
No	11	4.3
Missing/Don't know	6	----
Total	260	100.0

Did child's PGS class visit kindergarten?

	Number	Percent
Yes	112	43.2
No	68	26.3
Don't know	79	30.5
Missing	1	-----
Total	260	100.0

	ACD	BOE
Yes	53	59
No	38	30
Don't know	38	41
Total	129	130

Source: 1988 - 89 Parent Interviews Cohort I, Year 2

Exhibit 5.9

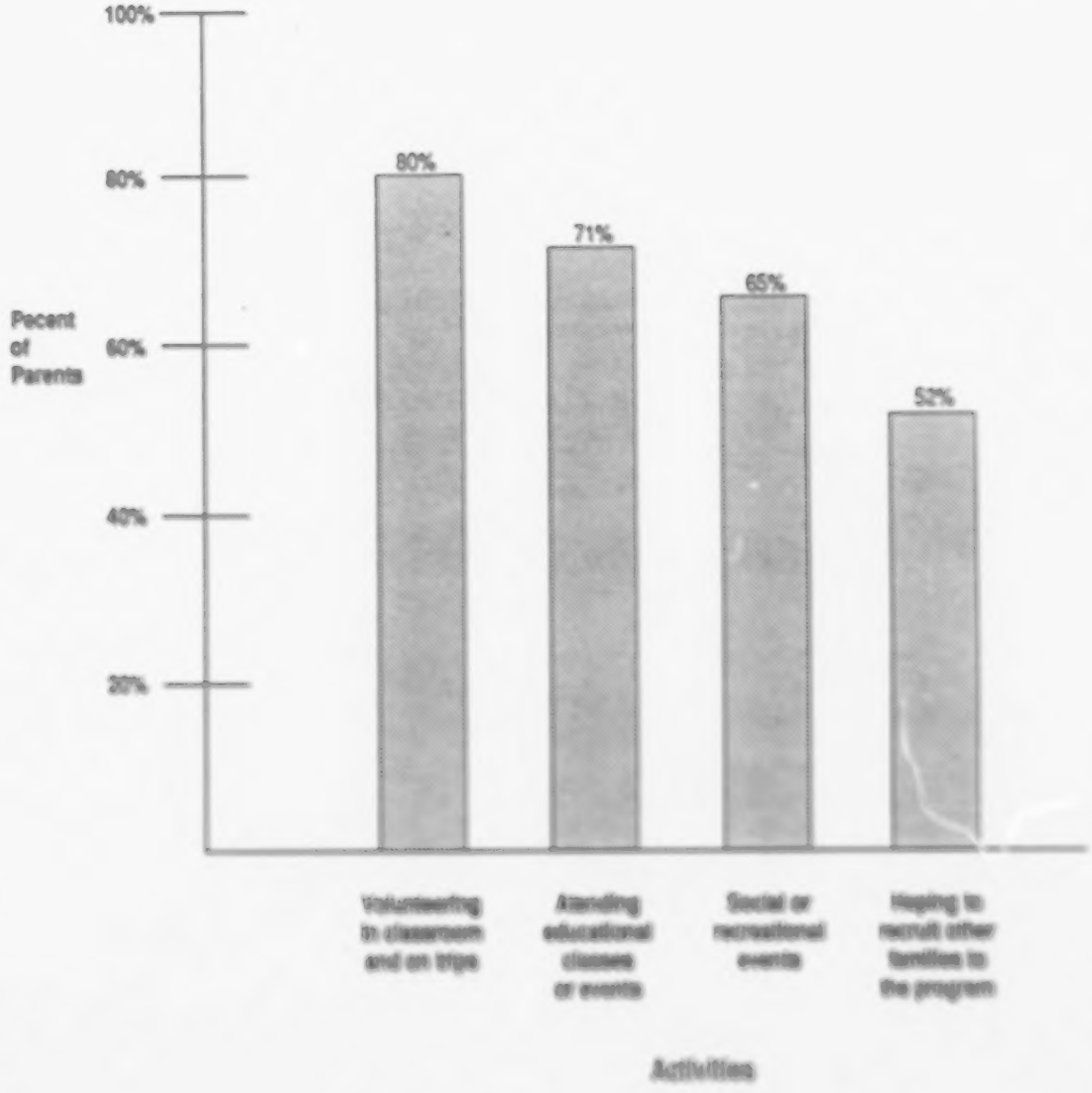
Did a kindergarten teacher visit child's Giant Step class?

	Number	Percent
Yes	65	25.1
No	60	23.2
Don't know	134	51.7
Missing	1	-----
Total	260	100.0

Source: 1988 - 89 Parent Interviews Cohort I, Year 2

Exhibit 5.10

Type and Amount of Parental Involvement in Giant Step



Source: 1999 - 83 Parent Interviews, Cohort I, Year 2. N = 298

Support Services for Parents

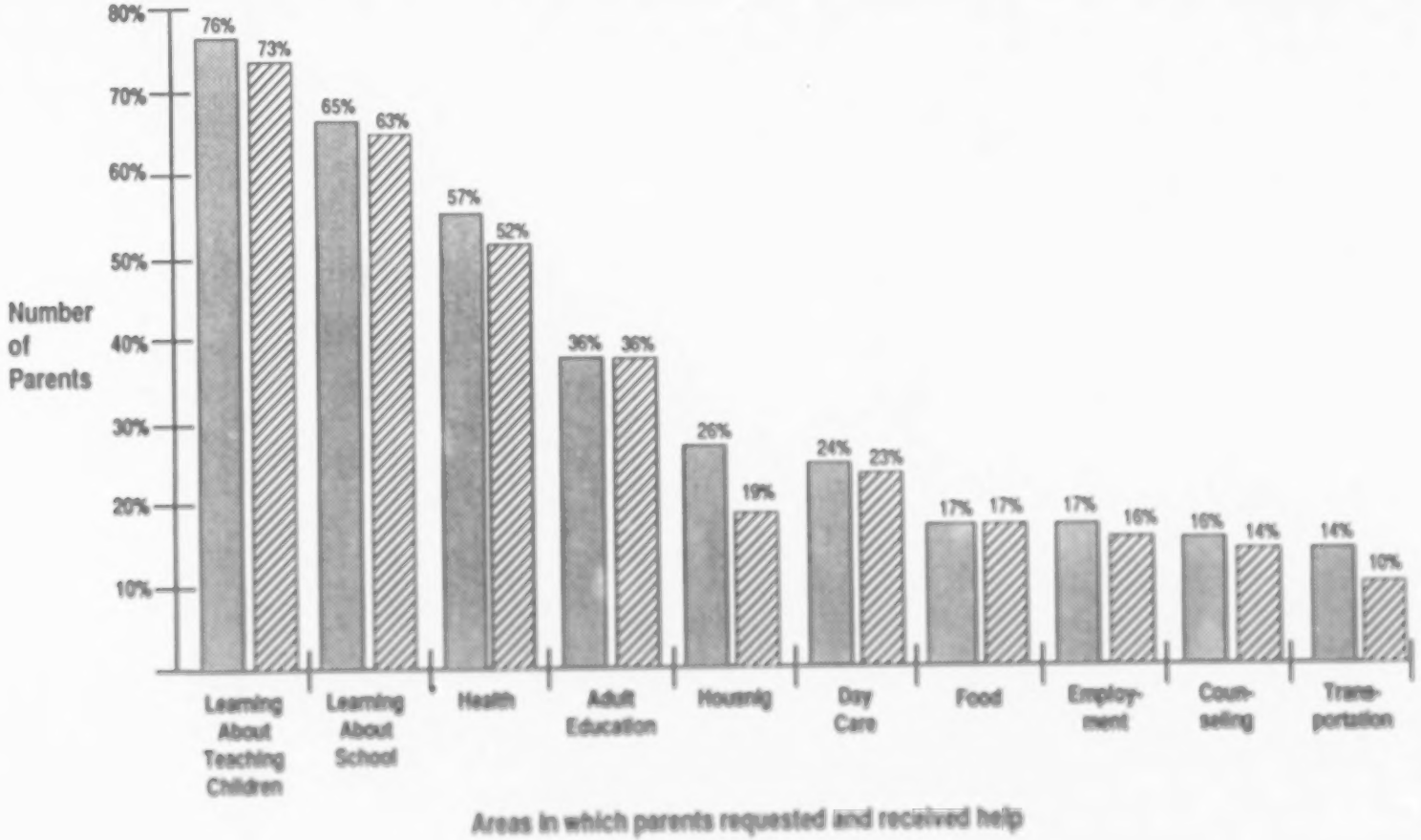
Support services for families constitutes a second important component of the program for parents. The program's goal is to assist families who need help in getting help either from program staff or from resources within the community. Not all families needed or asked for help.

In addition to the educational, social and recreational activities they organized for all, program staff were responsive to requests from parents for help. Less than one-quarter of the parents (80 of 380) requested help of any kind. Parents asked for help in learning about teaching children or requested advice or information about the public schools. Others needed and received information about or referral to health services, adult education programs, day care and employment services and food assistance (Exhibit 5.11).

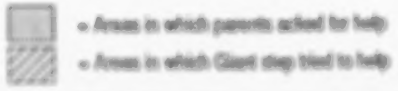
It is noteworthy that, while most requests for help involved information that parents needed in order to deal appropriately with children and their future schooling, more than 20 percent of parents asked for information about educational opportunities for themselves. Eighteen percent of parents interviewed reported that Giant Step staff helped them or another family member to continue their education, to get involved in a job training program or to find a better job.

Exhibit 5.11

Giant Step's Responsiveness to Parents' Requests for Help



Source: 1988 - 89 Parent Interviews, Cohort 1, Year 2. N = 250



CHAPTER SIX

PROGRAM EFFECTS ON STAFF

Two essential elements of quality in early childhood programs are the qualifications and training of its staff and the stability of staff. The National Day Care Study demonstrates the importance of staff trained in early childhood education for the quality of interactions in the classroom. More recently, the National Staffing Study found that, in programs with high staff turnover, the quality of the classroom environment and the child's experience deteriorated. Nationally, there is increasing concern about the growing scarcity of qualified staff and their high rate of attrition from the field because of low salaries and limited opportunities for professional growth.

Almost half of Giant Step teachers held Master's degrees; virtually all the rest held Bachelor's degrees. Seven percent of teacher assistants had Bachelor's degrees and almost a quarter had Associate degrees or some college credits towards a degree. Most degrees were in early childhood education or a closely related field.

Turnover of teaching staff in Giant Step was much lower than for child care teaching staff nationally. From September 1987 to September 1988, there was 21 percent turnover in Giant Step compared with the 41 percent nationally reported by the National Staffing Study.* While this low rate of attrition is common in public school programs, where teachers receive higher salaries and benefits than in community based programs, the study findings on turnover held true for both ACD and BOE programs and for lower-paid family or program assistants as well as for teaching staff.

Turnover within each program year was very low--7.5 percent in 1987-88 and 4.5 percent in 1988-89--ensuring a stable learning environment for children. The decreasing rate of turnover is particularly important since nationally we are seeing a dramatic increase in the rate of staff turnover. Within six months in 1988, child care centers experienced 37 percent attrition of teaching staff. By contrast, after two years of Giant Step, 75 percent of the original teaching staff remained in the program.

*This includes turnover within the school year and across the summer.

Staff members were satisfied with the training they received in Giant Step. Forty percent of all staff were enrolled in child-related courses outside the program. Staff expressed both satisfaction with the program and their commitment to its success.

APPENDIX A

Attrition in the Child Sample

Exhibit A-1 summarizes the number of children tested in Cohort I and the percentage of children who were available for testing in the Spring. Exhibit A-2 shows the same numbers for Cohort II.

Cohort I

In Cohort I, a total of 354 children (80.6 percent) remained in the sample for the Spring posttest. These children were spread almost equally across ACD (80.6 percent) and BOE (78.7 percent). Independently, the Board of Education, conducting a Chapter I evaluation, tested 1791 children attending BOE Giant Step programs beginning in Fall, 1987. In the Spring, a total of 1409 (78.7 percent) of those children remained in the sample. Thus, exactly the same proportion of children attrited across the two BOE samples.

An analysis of pretest scores comparing those children who remained in the Cohort I sample with those who attrited revealed few significant differences between the attrited and non-attrited children and their families. Overall, children who attrited were more likely to have single-parent families, lower family income, and a mother who was a teenager at the child's birth.

There were no overall differences on the PSI between the attrited and non-attrited children. However, there was a tendency (not statistically significant) for BOE children with lower pretest PSI scores to attrit from the sample (Exhibit A-3). For ACD, children who remained in the sample at posttest obtained a pretest score of 13.2 items, on average, compared with 12.2 for those children not tested in the Spring. In comparison, ACD children who were tested on both occasions scored 12.1 at pretest compared with 12.7 for those that were tested in the Fall only.

Cohort II

In Cohort II, 382 children (63.3 percent of the pretest sample) were present for the PSI posttest in the spring. Attrition was slightly higher among the BOE programs: 67 percent as compared with 63 percent in the ACD programs. The much greater attrition in Cohort II can be attributed to a problem with the data collection procedures. The two testers responsible for administering the PSI to Spanish-speaking

Exhibit A-1

Numbers of Cohort I Children in PSI Sample and Percent Retention from Fall to Spring

		Fall, 1987	Spring, 1988	Percent Retention
Combined Totals		454	364	80.2
ACD	1	24	22	91.7
	2	18	14	77.8
	3	12	10	83.3
	4	24	14	58.3
	5	12	12	100.0
	6	19	15	78.9
	7	24	22	91.7
	8	12	11	91.7
	9	48	39	81.2
	10	10	7	70.0
	11	12	10	82.3
ACD Totals		215	176	81.9
BOE	1	19	16	84.2
	2	10	10	100.0
	3	20	14	70.0
	4	20	18	90.0
	5	30	17	56.7
	6	20	20	100.0
	7	20	12	60.0
	8	20	14	70.0
	9	20	16	80.0
	10	20	14	70.0
	11	20	19	95.0
	12	20	18	90.0
BOE Totals		239	188	78.7

Exhibit A-2

Numbers of Cohort II Children in PSI Sample and Percent Retention from Fall to Spring

		Fall, 1987	Spring, 1988	Percent Retention
Combined Totals		**585**	**382**	**65.3**
ACD	1	31	0	-----
	2	18	13	72.2
	3	37	14	37.8
	4	21	19	90.5
	5	33	18	54.5
	6	27	26	96.3
	7	15	15	100.0
	8	49	38	97.4
	9	17	11	64.7
	10	11	9	81.8
ACD Totals		**259**	**163**	**62.9**
BOE	1	28	20	71.4
	2	26	21	80.8
	3	26	16	61.5
	4	32	24	75.0
	5	53	36	67.9
	6	27	23	85.2
	7	29	23	85.2
	8	16	5	31.3
	9	21	9	42.9
	10	22	15	68.2
	11	21	9	42.9
	12	25	18	72.0
BOE Totals		**326**	**219**	**67.1**

Exhibit A-3

Difference Between Attrited and Non-Attrited Children in the PSI for Cohorts I and II

	Cohort I			Cohort II		
	Non-attrited	Attrited	Significance of Difference	Non-attrited	Attrited	Significance of Difference
BOE	12.1	12.7	n.s.	13.5	9.0	$p < .001$
ACD	13.2	12.2	n.s.	12.9	10.6	$p < .01$

children did not complete their assignments, and could not be replaced before the end of the data collection period. Therefore, a large part of the attrition is due to missing data rather than to an inability to locate or test the children.

Psychometric Information on Instruments Used in the Evaluation

Psychometrics of the PSI in the Giant Step Sample

For each cohort of children, the pretest and posttest scores were analyzed for internal consistency and for pre-posttest correlation. The results indicate that the PSI was well administered and that the test retains its excellent psychometric characteristics (Exhibit A-4). Cronbach alphas for pre and post administrations were above .80 for all four testing points. These results are comparable to those found in other data collection efforts. The pre-posttest PSI correlation was .67 for Cohort I and .70 for Cohort II, again within the expected range.

Results of the Psychometric Analyses of Cohort I Ratings

Fall Ratings

Exhibits A-5 and A-6 show individual item frequencies for the fall ratings by the Giant Step teachers and the AAI testers, respectively. Some of the findings are summarized below.

- Item Variability: Most of the items showed reasonable variation, i.e., ratings were distributed across all four points on the scale. However, for a subset of the items relating to peer relationships (#3, 4, 5, 6, 7, 17), a majority of the ratings were the extreme end of the scale--"Not at all like". These items include all of those that involve rarer negative social behaviors with peers.

- Missing Data: Raters could use the code "No opportunity to rate" for any item on which they felt they had insufficient evidence to rate the child. Abt testers used "No opportunity to rate" nearly twice as often as did teachers. Whereas 71 percent of the teacher ratings had full data (i.e., each of the 33 items had been coded), only 37 percent of the ratings from the Abt testers were complete. The items on the data collector ratings with at least 10 percent missing data include #2, 5, 6, 10, 17, 22, 29 and 30. In the analyses, items coded as "No opportunity to rate" were treated as missing.

Exhibit A-7 shows the mean scores on each of the items, for Giant Step teachers and for the Abt testers.

Exhibit A-4

Summary of Psychometric Analyses for the 32-Item PSI

A. Internal Consistency

Sample	Ages in Months	n	Cronbach Alpha
1972 Home Start	34-69	166	.83
1973 Home Start	30-70	647	.80
1974 Home Start	46-81	326	.84
1976 National Day Care Study			
Fall, 1988	37-60	1330	.84
Spring, 1989	43-66	1027	.83
BOE Giant Step Chapter 1 Evaluation			
Fall, 1988	49-61	1791	.81
Spring, 1989	54-66	1409	.82
AAI Giant Step Evaluation			
Cohort I: Fall, 1987	41-60	454	.85
Spring, 1988	53-66	364	.87
Cohort II: Fall, 1988	45-60	585	.80
Spring, 1989	51-65	391	.84

B. Test-Retest Correlations

Sample	Pretest Age Range in Months	n	Pre to Posttest Correlation
National Day Care Study	49-54	287	.68
	55-60	235	.77
Head Start Longitudinal Study	44-54	600	.66
Home Start	30-70	280	.70
Follow Through*	48-70	591	.85
BOE Giant Step Chapter 1 Evaluation	49-63	1409	.79
AAI Giant Step Evaluation			
Cohort I ('87 - '88)	41-60	354	.67
Cohort II ('88 - '89)	45-60	382	.70
Both Cohorts combined	45-60	736	.69

* 3 week retest; all remaining studies 5-7 months between testing periods.

Exhibit A-5

Mean Frequencies for Spring 1987 *Child Behavior Rating Scale* For Cohort I by PGS Teachers (n = 382)

	Not At All Like	Somewhat Like	Much Like	Very Much Like	No Opportunity to Rate
1. **Spontaneously joins in play with two or more children** who are using the same set of materials or playing the same game.	8.1	25.1	30.4	35.9	0.5
2. **Comforts peers in distress** by doing things to make the playmate feel better.	22.3	31.7	23.8	13.6	8.6
3. **Willing to share toys or other things with other children when playing.**	73.6	16.8	5.5	3.7	0.5
4. **Plays with other children.**	73.6	16.8	5.5	3.7	0.5
5. **Expresses hostility to other children verbally** (teasing, threats, taunts, name calling, "I don't like you," etc.)	79.6	12.8	3.1	3.7	0.5
6. **Expresses hostility to other children physically** (hitting, pinching, kicking, pushing, biting).	81.4	9.2	5.2	3.1	1.0
7. **Uncooperative with playmates when participating in a group play activity; willing** to give and take in the group, to listen to or to help others.	66.0	22.3	6.0	5.0	0.3
8. **Takes turns in a game situation** with toys, materials, and other things without being told to do so.	13.6	29.8	35.6	19.1	1.8
9. **Offers suggestions for play** to other children.	21.5	32.2	27.5	14.1	4.7
10. **Suggestions for play are accepted** by other children.	16.0	35.6	25.9	12.3	10.2
11. **Engages in dramatic play or pretend play with other children.**	12.3	25.9	27.7	31.2	2.9
12. **Requests, verbally or nonverbally, asistance or emotional support from a teacher or adult in social situations with** other children.	35.1	35.1	14.9	13.4	1.6
13. **Complies with adult directives,** giving little or no verbal or physical resistance, even with tasks child dislikes.	15.7	22.3	27.5	34.0	0.5

Exhibit A-5
(continued)
Mean Frequencies for Spring 1987 *Child Behavior Rating Scale*
For Cohort I by PGS Teachers
(n = 382)

	Not At All Like	Somewhat Like	Much Like	Very Much Like	No Opportunity to Rate
14. **Initiates social interactions with familiar adults** by starting a conversation, or by showing the adult something.	15.7	25.9	25.9	31.4	1.0
15. **Requires repeated reminders to observe rules and follow directions.**	47.4	25.1	12.0	14.7	0.8
16. **Does not fuss when he/she has to wait briefly to get attention from teacher or other adult;** child may be asked once to wait by the teacher or adult.	19.1	27.2	25.4	27.7	0.5
17. **Easily upset by criticism from or teasing by other children** (cries, withdraws, pouts, hits, or has a tantrum).	55.5	21.2	6.8	9.2	7.3
18. **Tries to solve a problem on own before asking for help.**	10.7	35.1	33.2	19.4	1.6
19. **Shows satisfaction or pride when he/she completes a task or product.**	3.1	19.6	33.0	42.7	1.6
20. **Completes learning tasks involving two or more steps** (e.g., cutting and pasting) in organized way.	6.0	21.2	35.1	35.6	2.1
21. **Completes tasks successfully.**	3.7	20.9	36.4	36.9	2.1
22. **Attempts new and challenging tasks.**	10.7	24.1	28.8	34.0	2.4
23. **Asks for help during tasks.**	37.4	41.9	12.3	7.3	1.0
24. **Easily distracted by surrounding activities when working on a task.**	46.9	29.8	10.7	10.2	2.4
25. **Responds to instructions and then begins an appropriate task without being reminded.**	11.5	29.6	30.4	26.4	2.1
26. **Takes time to do his/her best on a task.**	8.4	25.1	30.4	34.6	1.6
27. **Feels he or she can cope well** with classroom situations.	8.9	25.7	33.2	29.6	2.6

Exhibit A-5
(continued)
Mean Frequencies for Spring 1987 *Child Behavior Rating Scale*
For Cohort I by PGS Teachers
(n = 382)

	Not At All Like	Somewhat Like	Much Like	Very Much Like	No Opportunity to Rate
28. **Finds and organizes materials and works in an appropriate place,** when activities are initiated.	5.8	24.1	39.8	28.5	1.8
29. **Sees own errors in a task and corrects them.**	13.4	38.2	28.0	16.5	3.9
30. **Returns to unfinished tasks after interruption.**	16.0	33.8	30.1	17.8	2.4
31. **Interested in trying new activities, games, projects;** displays curiosity about her/her environment.	6.8	22.5	31.9	37.7	1.0
32. **Conveys confidence about being able to succeed** at a task or in an activity.	11.0	26.2	33.2	28.3	1.3
33. **shows enthusiasm** for activities or tasks.	4.7	24.1	32.7	37.2	1.3

Exhibit A-6

Frequencies for Fall 1987 Child Ratings by Abt Testers
(n = 454)

	Not At All Like	Somewhat Like	Much Like	Very Much Like	No Opportunity to Rate
1. **Spontaneously joins in play with two or more children** who are using the same set of materials or playing the same game.	7.3	33.5	38.5	20.5	0.2
2. **Comforts peers in distress** by doing things to make the playmate feel better.	9.7	23.5	17.8	4.2	45.2
3. **Willing to share toys or other things with other children when playing.**	66.1	19.2	6.6	4.0	4.2
4. **Plays with other children.**	80.4	12.1	3.3	3.7	0.4
5. **Expresses hostility to other children verbally** (teasing, threats, taunts, name calling, "I don't like you," etc.)	69.4	13.0	3.1	1.3	13.0
6. **Expresses hostility to other children physically** (hitting, pinching, kicking, pushing, biting).	69.6	11.7	2.6	3.7	12.3
7. **Uncooperative with playmates when participating in a group play activity;** willing to give and take in the group, to listen to or to help others.	74.7	14.8	5.7	3.3	1.5
8. **Takes turns in a game situation** with toys, materials, and other things without being told to do so.	9.9	33.0	40.3	10.8	5.9
9. **Offers suggestions for play** to other children.	17.4	34.4	24.7	13.7	9.9
10. **Suggestions for play are accepted** by other children.	11.0	33.0	30.2	9.7	16.1
11. **Engages in dramatic play or pretend play with other children.**	20.3	26.4	28.9	20.9	3.5
12. **Requests, verbally or nonverbally, asistance or emotional support from a teacher or adult in social situations with** other children.	25.6	45.8	15.6	5.7	7.3
13. **Complies with adult directives,** giving little or no verbal or physical resistance, even with tasks child dislikes.	5.9	23.3	48.5	21.6	0.7

Exhibit A-6
(continued)

Frequencies for Fall 1987 Child Ratings by Abt Testers
(n = 454)

	Not At All Like	Somewhat Like	Much Like	Very Much Like	No Opportunity to Rate
14. **Initiates social interactions with familiar adults** by starting a conversation, or by showing the adult something.	34.8	34.8	24.0	18.5	3.3
15. **Requires repeated reminders to observe rules and follow directions.**	50.4	30.6	11.5	6.6	0.9
16. **Does not fuss when he/she has to wait briefly to get attention from teacher or other adult;** child may be asked **once** to wait by the teacher or adult.	12.8	26.0	36.6	16.7	7.9
17. **Easily upset by criticism from or teasing by other children** (cries, withdraws, pouts, hits, or has a tantrum).	31.3	16.1	9.7	4.6	38.3
18. **Tries to solve a problem on own before asking for help.**	5.3	36.6	33.7	12.3	12.1
19. **Shows satisfaction or pride when he/she completes a task or product.**	2.4	22.5	44.6	26.0	4.6
20. **Completes learning tasks involving two or more steps** (e.g., cutting and pasting) in organized way.	3.3	21.6	49.6	19.6	5.9
21. **Completes tasks successfully.**	2.4	23.6	48.5	21.4	4.2
22. **Attempts new and challenging tasks.**	7.0	30.4	29.7	18.1	14.8
23. **Asks for help during tasks.**	29.3	49.1	9.3	3.1	9.3
24. **Easily distracted by surrounding activities when working on a task.**	28.2	42.3	15.6	8.4	5.5
25. **Responds to instructions and then begins an appropriate task without being reminded.**	6.4	29.5	45.8	15.4	2.9
26. **Takes time to do his/her best on a task.**	3.7	28.4	43.6	18.3	5.9
27. **Feels he or she can cope well** with classroom situations.	5.3	25.6	39.0	17.4	12.8

Exhibit A-6
(continued)

Frequencies for Fall 1987 Child Ratings by Abt Testers
(n = 454)

	Not At All Like	Somewhat Like	Much Like	Very Much Like	No Opportunity to Rate
28. **Finds and organizes materials and works in an appropriate place,** when activities are initiated.	3.5	22.0	49.8	17.4	7.3
29. **Sees own errors in a task and corrects them.**	3.7	34.6	24.2	8.4	29.1
30. **Returns to unfinished tasks after interruption.**	5.9	37.9	28.6	7.5	20.0
31. **Interested in trying new activities, games, projects;** displays curiosity about her/her environment.	6.8	30.6	34.8	24.2	3.5
32. **Conveys confidence about being able to succeed** at a task or in an activity.	6.8	21.6	42.5	22.5	6.6
33. **shows enthusiasm** for activities or tasks.	4.4	18.5	47.8	26.0	3.3
34. Time Allocation Ratings					
During times that **the child can choose what to do** (free play or choice time), approximately what percentage of time does this child spontaneously spend in the following activities:					
Social play with others ____ %					
Working with materials alone or with others ____ %					
Solitary fantasy play ____ %					
Monitoring environment; otherwise uninvolved in activities ____ %					
100.0 %					

Exhibit A-7

Means for Fall 1987 and Spring 1988 Ratings of Cohort I Childrent by Giant Step Teachers

Item	Fall 1987 (n = 382) $\bar{x}$	(s.d.)	Spring 1988 (n = 276) $\bar{x}$	(s.d.)
1. Frequently and spontaneously joins in play with two or more children.	2.94	(.97)	3.25	(.77)
2. Comforts peers in distress.	2.32	(1.00)	2.86	(.88)
* 3. Willing to share toys or other things with other children when playing.	3.44	(.87)	-----	-----
* 4. Plays with other children.	3.61	(.76)	3.39	(.68)
* 5. Rarely expresses hostility to other children verbally.	3.70	(.71)	3.38	(.75)
* 6. Rarely expresses hostility to other children physically.	3.71	(.71)	3.48	(.73)
* 7. Cooperative with playmates when participating in a group play activitiy.	3.50	(.82)	-----	-----
8. Takes turns in a game situation.	2.61	(.95)	3.16	(.76)
9. Frequently offers suggestions for play to other children.	2.36	(.99)	2.93	(.91)
10. Suggestions for play are accepted by other children.	2.39	(.93)	2.98	(.83)
11. Frequently engages in dramatic play or pretend play with other children.	2.80	(1.03)	3.22	(.78)
*12. Rarely requests emotional support from a teacher or adult in social situations.	2.93	(1.02)	2.68	(.86)
13. Usually complies with adult directives.	2.80	(1.08)	3.15	(.82)
14. Frequently initiates social interactions with familiar adults.	2.74	(1.07)	3.17	(.83)
*15. Rarely requires repeated reminders to observe rules and follow directions.	3.06	(1.09)	2.87	(.95)
16. Usually does not fuss when he/she has to wait briefly to get attention from teacher or other adult.	2.62	(1.09)	2.52	(.99)
*17. Not easily upset by criticism from or teasing by other children.	3.33	(.98)	2.95	(.94)
18. Usually tries to solve a problem on own before asking for help.	2.62	(.92)	3.12	(.70)
19. Frequently shows satisifaction or pride after completing a task.	3.17	(.86)	3.45	(.60)
20. Usually completes learning tasks involving two or more steps.	3.02	(.91)	3.36	(.67)

* Negative items reversed to make scale parallel to other items.

/ Items not coded on Spring rating scale because of inconsistent wording on instrument.

Exhibit A-7
(continued)
Means for Fall 1987 and Spring 1988 Ratings of Cohort I Children by Giant Step Teachers

Item	Fall 1987 (n = 382) x	(s.d.)	Spring 1988 (n = 276) x	(s.d.)
21. Usually completes tasks successfully.	3.09	(.86)	3.42	(.58)
22. Frequently attempts new and challenging tasks.	2.88	(1.01)	3.28	(.72)
*23. Rarely asks for help during tasks.	3.11	(.89)	2.76	(.83)
*24. Not easily distracted by surrounding activities when working on a task.	3.16	(.99)	2.83	(.89)
25. Usually responds to instructions and begins without being reminded.	2.73	(.99)	3.26	(.71)
26. Usually takes time to do his/her best on a task.	2.93	(.97)	3.26	(.68)
27. Usually feels he or she can cope well with classroom situations.	2.86	(.96)	3.26	(.65)
28. Finds and organizes materials and works in an appropriate place.	2.93	(.88)	3.31	(.66)
29. Usually sees own errors in a task and corrects them.	2.50	(.93)	3.02	(.71)
30. Usually returns to unfinished tasks after interruption.	2.51	(.97)	3.02	(.73)
31. Usually interested in trying new activities games, projects.	3.02	(.94)	3.36	(.69)
32. Often conveys confidence about being able to succeed at a task.	2.80	(.98)	3.31	(.69)
33. Usually shows enthusiasm for activities or tasks.	3.04	(.90)	3.36	(.69)
34. Time Allocation Ratings				
During times that **the child can choose what to do** (free play or choice time), approximately what percentage of time does this child spontaneously spend in the following activities:				
Social play with others	49.1%	(20.7)	51.9%	(19.1)
Working with materials alone or with others	35.3%	(16.3)	31.4%	(15.4)
Solitary fantasy play	8.0%	(11.0)	10.1%	(10.2)
Monitoring environment; otherwise uninvolved in activities	7.6%	(12.8)	6.3%	(10.4)

* Negative items reversed to make scale parallel to other items.

Overall Average Score and Subscores

An overall average rating was computed for each child by first summing his/her scores (1 to 4) on each of the 33 items that was coded. (Items coded as "No opportunity to rate" were excluded, and negative behavior items were recoded so that they followed the same direction, i.e., with a higher score indicating a more positive rating.) The total score was then divided by the total number of items coded. Three subscore averages also were computed. The items on the rating scale were developed to address three areas of competence: social behavior with peers (items 1-11 and 17); social behavior with adults (items 12-16); and task behavior (items 18-33). Average ratings were computed for each of these areas.

The overall average ratings and average subscores for the teacher and the tester ratings are shown in Exhibit A-8. In the fall, the overall average was very similar for the teacher and the tester ratings--2.94 and 2.91 out of a possible 4.0. The average subscores for the fall ratings also were very similar for the Giant Step teachers and the Abt testers.

Use of Time Scores

At the end of the rating scale, raters are asked to estimate how the child chooses to spend his/her time during free choice periods. Raters must allocate 100% of the child's time across four categories: social play, (with other children) working with materials (alone or with others), solitary fantasy play and monitoring the environment.

Exhibit A-7 shows the mean percentages of time in each category as coded by teachers and by data collectors. For both groups of coders, social play and working with materials were commonly observed, while solitary fantasy play and monitoring were rarely observed for the vast majority of the children.

Correlations between the use of time variables and scores on the rating scale show that for both teacher and tester ratings, time spent in social play was positively correlated with high scores on the rating scale; time spent in fantasy play or in monitoring were negatively associated with rating scale scores (Exhibit A-9).

Inter-rater Agreement (Teacher/Tester Agreement)

Individual Item Agreement. Teacher and tester ratings on the same child were compared for agreement. Exhibit A-10 presents the percentage agreement for each item on the rating scale (excluding the ratings on which one of the raters indicated "No

Exhibit A-8

Mean Summary Scores for Cohort I from the *Child Behavior Rating Scale*

	Ratings by Giant Step Teachers				Ratings by Abt Testers			
	Fall (n = 382)		Spring (n = 276)		Fall (n = 454)		Spring (n = 364)	
	x	(s.d)	x	(s.d)	x	(s.d)	x	(s.d)
Overall average rating	2.94	(.57)	3.14	(.44)	2.91	(.48)	3.15	(.39)
Average rating for peer interactions	3.07	(.55)	3.16	(.50)	3.05	(.53)	3.22	(.41)
Average rating for adult interactions	2.83	(.68)	2.87	(.52)	2.84	(.59)	3.03	(.50)
Average rating for task behavior	2.89	(.71)	3.21	(.50)	2.82	(.57)	3.15	(.46)

Exhibit A-9

Correlations Between Use of Time and Summary Scores for Cohort I Fall Child Ratings

	Teacher Ratings (n = 382)				Tester Ratings (n = 454)			
Use of Time	Overall Average Score	Peer Behavior	Adult Behavior	Task Behavior	Total Score	Peer Behavior	Adult Relations	Task Behavior
Social Play	.24**	.34**	.17**	.16**	.36**	.53**	.23**	.19*
Work with materials	-.03	.02	.11	.06	-.01	-.08	.00	.02
Solitary fantasy play	-.19**	-.11	-.15*	-.17**	-.19**	-.25**	-.16**	-.10
Monitoring	-.36**	-.21**	-.27**	-.32**	-.29**	-.38**	-.17**	-.19**

* 1-tailed significance of .01
** 1-tailed significance of .001

Exhibit A-10

Percent Agreement Between Child Ratings by Giant Step Teachers and by Abt Testers for Cohort 1

Item	Fall Teacher and Tester Ratings	Spring Teacher and Tester Ratings
1. Frequently and spontaneously joins in play with two or more children.	40%	49%
2. Comforts peers in distress.	36%	42%
* 3. Willing to share toys or other things with other children when playing.	34%	/
* 4. Plays with other children.	68%	56%
* 5. Rarely expresses hostility to other children verbally.	66%	53%
* 6. Rarely expresses hostility to other children physically.	71%	55%
* 7. Cooperative with playmates when participating in a group play activitiy.	60%	/
8. Takes turns in a game situation.	38%	52%
9. Frequently offers suggestions for play to other children.	38%	44%
10. Suggestions for play are accepted by other children.	36%	49%
11. Frequently engages in dramatic play or pretend play with other children.	31%	46%
*12. Rarely requests emotional support from a teacher or adult in social situations.	34%	38%
13. Usually complies with adult directives.	31%	45%
14. Frequently initiates social interactions with familiar adults.	35%	42%
*15. Rarely requires repeated reminders to observe rules and follow directions.	42%	38%
16. Usually does not fuss when he/she has to wait briefly to get attention from teacher or other adult.	29%	27%
*17. Not easily upset by criticism from or teasing by other children.	44%	41%
18. Usually tries to solve a problem on own before asking for help.	38%	55%
19. Frequently shows satisifaction or pride after completing a task.	39%	63%
20. Usually completes learning tasks involving two or more steps.	39%	53%

* Negative items reversed to make scale parallel to other items.
/ Items not coded on Spring rating scale because of inconsistent wording on instrument.

Exhibit A-10
(continued)

Percent Agreement Between Child Ratings by Giant Step Teachers and by Abt Testers for Cohort 1

Item	Fall Teacher and Tester Ratings	Spring Teacher and Tester Ratings
21. Usually completes tasks successfully.	38%	56%
22. Frequently attempts new and challenging tasks.	39%	47%
*23. Rarely asks for help during tasks.	41%	37%
*24. Not easily distracted by surrounding activities when working on a task.	37%	39%
25. Usually responds to instructions and begins without being reminded.	35%	47%
26. Usually takes time to do his/her best on a task.	37%	53%
27. Usually feels he or she can cope well with classroom situations.	41%	56%
28. Finds and organizes materials and works in an appropriate place.	41%	53%
29. Usually sees own errors in a task and corrects them.	35%	50%
30. Usually returns to unfinished tasks after interruption.	35%	53%
31. Usually interested in trying new activities games, projects.	39%	46%
32. Often conveys confidence about being able to succeed at a task.	33%	51%
33. Usually shows enthusiasm for activities or tasks.	40%	47%

* Negative items reversed to make scale parallel to other items.

opportunity to rate"). On the fall ratings, the percentage agreement ranged from 31% to 70%, with average agreement of 42 percent across all items. The items with little variation--the negative social behaviors--had the highest percentage agreement. As a result, the subset of items relating to social behavior with peers had the highest agreement--49 percent on average. The items relating to social behavior with adults had the lowest average agreement--35 percent. The items relating to task behavior had average agreement of 38 percent.

Overall Average Score and Subscore Agreement. The overall average score and subscores derived from the teacher and the data collector ratings were significantly correlated (Exhibit A-11).

Agreement on Use of Time Measures. Teachers and testers did not agree closely on their estimates of children's use of time in the fall. As Exhibit A-12 shows, the fall correlations were significant only for amount of time spent in social play.

Spring Ratings

Individual Items and Average Scores. The frequencies for the child ratings obtained from Giant Step teachers and Abt testers in the spring are shown in Exhibits A-13 and A-14. Similar to the fall ratings, the spring ratings showed substantial variation. The exception again was the negative peer behaviors (e.g., verbal and physical hostility), which were coded as "Almost Never" for over half of the children. Exhibits A-13 and A-14 also show that although both groups of raters used the category "No opportunity to code" less often in the spring ratings than in the fall, the Abt testers still used the code much more often. Analyses showed that 90 percent of the teacher ratings had data on each item, while only 48 percent of the ratings by the testers had full data. (This compares with 71 percent and 37 percent, respectively, in the fall ratings.)

The means for the rating scale items in the spring are shown in Exhibit A-7. The average rating and average subscores are shown in Exhibit A-8. As was true in the fall, the overall average scores from the ratings by Giant Step teachers and Abt testers were nearly identical. The subscores varied somewhat. Most notably, compared with teachers, the Abt testers rated children higher on their interactions with adults.

Exhibit A-11

Correlations of Summary Scores from Ratings by Giant Step Teachers and by Abt Testers for Cohort I

Item	Fall Teacher and Tester Ratings	Spring Teacher and Tester Ratings
Overall average rating	.47**	.33**
Average peer behavior rating	.39**	.33**
Average adult behavior rating	.56**	.22**
Average task behavior rating	.40**	.31**

** 1-tailed significance < .001

Exhibit A-12

Correlations for Cohort 1 Use of Time Ratings by Giant Step Teachers and by Abt Testers for Cohort I

Percent of time spent in:	Fall Teacher and Tester Ratings	Spring Teacher and Tester Ratings
Social play	.23**	.13
Work with materials	.07	.01
Solitary fantasy play	.12	.36**
Monitoring or uninvolved	.08	.29**

* 1-tailed significance < .01
** 1-tailed significance < .001

Exhibit A-13

Mean Frequencies For Spring 1988 Child Behavior Rating Scale For Cohort I By PGS Teachers

(n = 276)

	Almost Never	Rarely	Usually	Frequently	No Opportunity to Rate
Spontaneously joins in play with two or more children who are using the same set of materials or playing the same game.	1.9%	11.6%	43.0%	42.4%	0.0%
Comforts peers in distress by doing things to make the playmate feel better.	7.2	23.9	42.4	24.3	2.2
Willing to share toys or other things with other children when playing; does not fight or argue with playmates in disputes over property.			no data coded		
Plays with other children.	1.8	5.4	44.9	47.8	0.0
Expresses hostility to other children verbally (teasing, threats, taunts, name calling, "I don't like you,", etc.)	2.9	7.2	38.0	50.7	1.1
Expresses hostility to other children physically (hitting, pinching, kicking, pushing, biting).	2.5	6.5	31.2	59.4	0.4
Uncooperative with playmates when participating in a group play activity.			no data coded		
Takes turns in a game situation with toys, materials, and other things without being told to do so.	3.6	11.2	50.7	34.1	0.4
Offers suggestions for play to other children.	7.6	22.1	39.5	30.8	0.0
Suggestions for play are accepted by other children.	5.4	18.5	47.8	27.5	0.7
Engages in dramatic play or pretend play with other children.	3.3	11.6	43.5	40.2	1.4

	Almost Never	Rarely	Usually	Frequently	No Opportunity to Rate
Requests, verbally or nonverbally, assistance assistance or emotional support from a teacher or adult in social situations with other children.	10.5%	26.1%	47.8%	14.9%	0.7%
Complies with adult directives, giving little or no verbal or physical resistance, even with tasks child dislikes.	5.1	12.0	46.0	36.6	0.4
Initiates social interactions with familiar adults by starting a conversation, or by showing the adult something.	4.0	15.6	39.5	40.0	0.7
Requires repeated reminders to observe rules and follow directions.	10.9	19.9	40.6	28.3	0.4
Does not fuss when he/she has to wait briefly to get attention from teacher or other adult; child may be asked once to wait by the teacher or adult.	19.2	26.4	36.2	17.0	1.1
Easily upset by criticism from or teasing by other children (cries, withdraws, pouts, hits, or has a tantrum in response).	10.1	15.6	42.4	31.2	0.7
Tries to solve a problem on own before asking for help.	2.2	12.7	55.4	29.0	0.7
Shows satisfaction or pride when he/she completes a task or product.	0.7	3.6	45.3	49.3	1.1
Completes learning tasks involving two or more steps (e.g., cutting and pasting) in organized way.	0.7	8.3	44.9	45.2	0.4
Completes tasks successfully.	0.7	2.5	50.4	45.7	0.7
Attempts new and challenging tasks.	1.4	11.6	43.8	42.0	1.1
Asks for help during tasks.	8.0	24.3	49.6	16.7	1.4
Easily distracted by surrounding activities when working on a task.	9.1	21.4	44.9	22.8	1.8
Responds to instructions and then begins an appropriate task without being reminded.	1.4	13.0	51.1	33.7	0.7

	Almost Never	Rarely	Usually	Frequently	No Opportunity to Rate
Takes time to do his/her best on a task.	1.8%	8.0%	51.8%	37.7%	0.7%
Feels he or she can cope well with classroom situtations.	1.4	6.9	55.1	35.5	1.1
Finds and organizes materials and works in an appropriate place, when activities are initiated.	1.2	7.6	49.6	40.9	0.7
Sees own errors in a task and corrects them.	1.8	18.5	54.7	40.9	0.7
Returns to unfinished tasks after interruption.	2.5	18.1	53.6	24.3	0.4
Interested in trying new activities, games, projects; displays curiosity about his/her environment.	0.7	10.1	41.3	25.4	0.4
Conveys confidence about being able to succeed at a task or in an activity.	0.7	10.9	44.2	47.5	1.1
Shows enthusiasm for activities or tasks.	0.7	9.8	41.3	43.1	0.7

Time Allocation Ratings

During times that the child can choose what to do (free play or choice time), approximately what percentage of time does this child spontaneously spend in the following activities:

Social play with others	**51.9%**
Working with materials alone or with others	**31.5%**
Solitary fantasy play	**10.1%**
Monitoring environment; or otherwise uninvolved in activities	**6.4%**
	100.0%

Exhibit A-14

Mean Frequencies for Spring 1988 Child Ratings for Cohort I by Abt Testers (n = 364)

	Almost Never	Rarely	Usually	Frequently	No Opportunity to Rate
1. **Spontaneously joins in play with two or more children** who are using the same set of materials or playing the same game.	1.9	6.3	56.3	35.2	0.3
2. **Comforts peers in distress** by doing things to make the playmate feel better.	6.0	14.3	33.2	7.4	39.0
3. **Willing to share toys or other things with other children when playing.**			No data coded		
4. **Plays with other children.**	0.3	3.8	57.1	38.7	0.0
5. **Expresses hostility to other children verbally** (teasing, threats, taunts, name calling, "I don't like you," etc.)	0.8	3.0	36.0	55.8	4.4
6. **Expresses hostility to other children physically** (hitting, pinching, kicking, pushing, biting).	1.1	2.2	35.7	57.4	3.6
7. **Uncooperative with playmates when participating in a group play activity;** willing to give and take in the group, to listen to or to help others.			No data coded		
8. **Takes turns in a game situation** with toys, materials, and other things without being told to do so.	0.8	5.2	70.6	22.0	1.4
9. **Offers suggestions for play** to other children.	4.4	18.1	45.1	21.2	11.3
10. **Suggestions for play are accepted** by other children.	2.7	9.3	52.7	21.2	14.0
11. **Engages in dramatic play or pretend play with other children.**	1.1	14.3	52.5	25.0	7.1
12. **Requests, verbally or nonverbally, asistance or emotional support from a teacher or adult in social situations with** other children.	6.0	12.4	59.3	15.4	6.9
13. **Complies with adult directives,** giving little or no verbal or physical resistance, even with tasks child dislikes.	1.4	6.9	63.5	27.2	1.1

Exhibit A-14
(continued)

Mean Frequencies for Spring 1988 Child Ratings for Cohort I by Abt Testers (n = 364)

	Almost Never	Rarely	Usually	Frequently	No Opportunity to Rate
14. **Initiates social interactions with familiar adults** by starting a conversation, or by showing the adult something.	3.6	24.7	40.9	28.6	2.2
15. **Requires repeated reminders to observe rules and follow directions.**	6.3	18.1	42.0	33.0	0.5
16. **Does not fuss when he/she has to wait briefly to get attention from teacher or other adult;** child may be asked **once** to wait by the teacher or adult.	4.9	9.6	55.2	25.3	4.9
17. **Easily upset by criticism from or teasing by other children** (cries, withdraws, pouts, hits, or has a tantrum).	2.5	9.1	32.7	26.6	29.1
18. **Tries to solve a problem on own before asking for help.**	0.8	8.2	63.2	20.3	7.4
19. **Shows satisfaction or pride when he/she completes a task or product.**	0.3	4.9	53.8	36.3	4.7
20. **Completes learning tasks involving two or more steps** (e.g., cutting and pasting) in organized way.	0.3	6.6	52.7	32.1	8.2
21. **Completes tasks successfully.**	0.0	3.8	55.8	33.8	6.6
22. **Attempts new and challenging tasks.**	1.6	12.9	47.0	27.2	11.3
23. **Asks for help during tasks.**	6.0	13.7	55.5	14.6	10.2
24. **Easily distracted by surrounding activities when working on a task.**	8.0	16.2	54.4	17.3	4.1
25. **Responds to instructions and then begins an appropriate task without being reminded.**	0.3	8.8	65.1	23.1	2.7
26. **Takes time to do his/her best on a task.**	0.8	6.9	54.7	28.0	9.6
27. **Feels he or she can cope well** with classroom situations.	0.5	8.0	53.3	29.9	8.2

Exhibit A-14
(continued)

Mean Frequencies for Spring 1988 Child Ratings for Cohort I by Abt Testers (n = 364)

	Almost Never	Rarely	Usually	Frequently	No Opportunity to Rate
28. **Finds and organizes materials and works in an appropriate place,** when activities are initiated.	0.5	4.1	60.2	34.1	1.1
29. **Sees own errors in a task and corrects them.**	1.4	8.8	48.6	11.0	30.2
30. **Returns to unfinished tasks after interruption.**	1.6	9.9	54.7	12.6	21.2
31. **Interested in trying new activities, games, projects;** displays curiosity about her/her environment.	2.2	9.1	56.3	27.7	4.7
32. **Conveys confidence about being able to succeed** at a task or in an activity.	2.5	10.4	47.3	36.8	3.0
33. **shows enthusiasm** for activities or tasks.	1.9	8.0	50.8	37.6	1.6
34. Time Allocation Ratings					
During times that **the child can choose what to do** (free play or choice time), approximately what percentage of time does this child spontaneously spend in the following activities:					
Social play with others 52.5 %					
Working with materials alone or with others 38.2 %					
Solitary fantasy play 5.89 %					
Monitoring environment; otherwise uninvolved in activities 3.70 %					
100.0 %					

Use of Time Scores

As was true for the fall ratings, in the spring ratings social play and working with materials accounted for most of the children's time (Exhibit A-7). Fantasy play and monitoring were much less commonly observed.

Also similar to the fall ratings, on the spring ratings more time spent in social play was correlated with high scores on the rating scale and especially on the items concerning peer interactions (Exhibit A-15). In addition, time spent in monitoring was associated with lower scores on the rating scale.

Inter-rater Agreement (Teacher/Tester Agreement)

Individual Items. The percentage agreement between teacher and tester ratings on individual items in the spring ranges from 27 percent to 63 percent, with an average of 45 percent, which is just slightly higher than the fal. average of 42 percent (Exhibit A-10). Items concerning social interactions with peers and task behavior had higher agreement on average (49-50 percent) than did items on interactions with adults (38 percent).

Overall Average Score and Subscore Agreement. The overall average score and average subscores based on teacher and tester ratings were significantly correlated for the spring ratings (Exhibit A-11), although the correlations were lower for spring than for fall.

Agreement on Use of Time Measures. On the use of time scores, testers and teachers agreed most strongly on their estimates for amount of time spent in fantasy play and in monitoring (Exhibit A-12).

Fall to Spring Correlations on Ratings

Fall-spring correlations were computed as part of the psychometric analyses of the rating scales. The correlation was examined separately for ratings by Giant Step teachers and by Abt testers. As Exhibit A-16 shows, based on the summary scores for the rating scale, fall and spring ratings were significantly correlated for both teachers and testers. The correlations were higher for teacher ratings. This pattern would be expected. On the teacher ratings, the same teachers were rating the same children at fall and spring, while for the tester raters, different testers were rating the children at each timepoint, based on relatively brief exposure each time.

Exhibit A-15

Correlations Between Use of Time and Summary Scores for Spring Ratings

	Teacher Ratings (n = 276)				Tester Ratings (n = 364)			
	Overall Score	Peer Behavior	Adult Behavior	Task Behavior	Total Score	Peer Behavior	Adult Relations	Task Behavior
Social Play	.35**	.41**	.22**	.27*	.13*	.31**	.03	.05
Work with materials	-.07	-.16	-.07	-.00	.07	-.16**	.06	.17**
Solitary fantasy play	-.13	-.15**	-.02	-.12	-.20**	-.18**	-.19**	-.17**
Monitoring	-.37**	-.34**	-.19**	-.36**	-.29**	-.22**	-.06	-.34**

* 1-tailed significance of .01
** 1-tailed significance of .001

Exhibit A-16

Fall-Spring Correlations for Cohort I Summary Scores on the Child Behavior Rating Scale

Summary Rating Score	Giant Step Teachers (n = 364)	Abt Testers (n = 276)
Overall average rating	.51**	.25**
Average rating for child interactions	.49**	.21**
Average rating for adult interactions	.44**	.21**
Average rating for task behavior	.47**	.24**

** 1-tailed significance: .001

Results of the Psychometric Analyses of the Cohort II Ratings

Based on the results of the Cohort I data collection, the CBRS was modified in a number of ways. First, the category "no opportunity to rate" was dropped. Second, the scale was expanded to a five point scale, from "Never" to "Sometimes" to "Always." Third, the items that had been stated in a negative way, which raters had difficulty with, were modified to be positively stated.

Item Variability

Exhibits A-17 and A-18 shows the individual item frequencies for the Fall and Spring Cohort II rating scale data. Exhibit A-19 shows the mean item scores for both timepoints. As was true for Cohort I, the items show reasonable variation--ratings were distributed across all five points of the scale.

Summary Scores

Exhibit A-20 shows the summary rating scores for fall and spring for Cohorts I and II. For both cohorts, the summary scores increased over the PGS year. Although direct comparison of the Cohort I and Cohort II average scores is not informative because of the change in scaling for Cohort II, it can be seen that for both cohorts the items on social behavior with adults had the lowest score. In both cohorts, the three subscores are quite similar.

Fall-Spring Correlations

As expected, the fall and spring child ratings were highly correlated for Cohort II, as they were for Cohort I. Exhibit A-22 shows the correlations for the summary rating scores.

Exhibit A-17

Mean Frequencies For Fall 1988 Child Behavior Rating Scale For Cohort II By PGS Teachers

(n = 569)

	Never	Rarely	Sometimes	Frequently	Always
Spontaneously joins in play with two or more children who are using the same set of materials or playing the same game.	1.9%	9.1%	26.0%	45.2%	17.8%
Comforts peers in distress by doing things to make the playmate feel better.	9.2	21.8	39.3	24.8	4.9
Willing to share toys or other things with other children when playing; does not fight or argue with playmates in disputes over property.	2.1	8.1	32.5	45.9	11.3
Plays with other children.	0.5	4.9	19.3	48.7	26.5
Expresses hostility to other children verbally (teasing, threats, taunts, name calling, "I don't like you,", etc.	44.0	33.3	17.6	4.8	0.4
Expresses hostility to other children physically (hitting, pinching, kicking, pushing, biting).	51.7	29.2	13.7	5.1	0.4
Cooperative with playmates when participating in a group play activity; willing to give and take in the group, to listen to or to help others.	1.6	7.0	32.2	47.2	12.0
Takes turns in a game situation with toys, materials, and other things without being told to do so.	1.4	8.1	33.0	47.1	10.4
Offers suggestions for play to other children.	7.6	19.5	33.2	33.9	5.8
Suggestions for play are accepted by other children.	6.9	16.7	41.1	31.3	4.0
Engages in dramatic play or pretend play with other children.	2.3	10.4	30.1	44.6	12.7
Resolves potential social conflicts with peers without requiring help from the teacher or other adult.	6.5	18.5	43.8	27.6	3.7

	Never	Rarely	Sometimes	Frequently	Always
Complies with adult directives, giving little or no verbal or physical resistance, even with tasks child dislikes.	0.9%	8.5%	27.3%	45.1%	18.3%
Initiates social interactions with familiar adults by starting a conversation, or by showing the adult something.	4.4	14.4	25.7	42.3	13.2
Observes rules and follows directions without requiring repeated reminders.	1.2	11.1	33.6	41.1	13.0
Does not fuss when he/she has to wait briefly to get attention from teacher or other adult; child may be asked once to wait by the teacher or adult.	3.9	7.9	29.9	44.5	13.8
Can deal with normal criticism or teasing by other children; does not easily cry, withdraw, pout, hit, or have a tantrum in response.	5.5	11.1	32.6	44.4	6.5
Tries to solve a problem on own before asking for help.	2.1	14.4	39.8	37.9	5.8
Shows satisfaction or pride when he/she completes a task or product.	0.4	3.9	19.8	51.9	24.8
Completes learning tasks involving two or more steps (e.g., cutting and pasting) in organized way.	1.2	9.3	31.0	42.2	16.2
Completes tasks successfully.	0.4	4.6	25.3	50.3	19.5
Attempts new and challenging tasks.	1.2	9.3	31.0	42.2	16.2
Concentrates when working on a task; is not easily distracted by surrounding activities.	1.4	10.0	31.5	46.0	11.1
Responds to instructions and then begins an appropriate task without being reminded.	1.1	11.4	33.2	43.1	11.2
Takes time to do his/her best on a task.	1.6	7.4	29.5	47.6	13.9

	Never	Rarely	Sometimes	Frequently	Always
Feels he or she can cope well with classroom situtations.	0.7%	4.6%	27.6%	51.8%	15.3%
Finds and organizes materials and works in an appropriate place, when activities are initiated.	1.2	6.7	29.9	47.8	14.4
Sees own errors in a task and corrects them.	1.9	16.6	43.9	32.3	5.3
Returns to unfinished tasks after interruption.	2.1	12.7	40.9	35.8	8.5
Interested in trying new activities, games, projects; displays curiosity about his/her environment.	0.9	7.9	26.1	44.7	20.4
Conveys confidence about being able to succeed at a task or in an activity.	0.9	7.4	26.4	50.1	15.3
Shows enthusiasm for activities or tasks.	1.1	6.5	25.9	47.4	19.0

Time Allocation Ratings

During times that the child can choose what to do (free play or choice time), approximately what percentage of time does this child spontaneously spend in the following activities:

Social play with others	**48.80%**
Working with materials alone or with others	**31.33%**
Solitary fantasy play	**10.12%**
Monitoring environment; or otherwise uninvolved in activities	**9.54%**
	100.00%

Exhibit A-18

Mean Frequencies For Spring 1989 Child Behavior Rating Scale For Cohort II By PGS Teachers

(n = 520)

	Never	Rarely	Sometimes	Frequently	Always
Spontaneously joins in play with two or more children who are using the same set of materials or playing the same game.	0.0%	5.6%	21.0%	47.3%	26.1%
Comforts peers in distress by doing things to make the playmate feel better.	3.9	18.8	38.4	27.9	11.0
Willing to share toys or other things with other children when playing; does not fight or argue with playmates in disputes over property.	0.4	4.7	32.6	43.8	18.6
Plays with other children.	0.0	3.9	11.9	47.3	36.3
Expresses hostility to other children verbally (teasing, threats, taunts, name calling, "I don't like you,", etc. [a]	52.5	30.0	12.7	3.5	1.3
Expresses hostility to other children physically (hitting, pinching, kicking, pushing, biting). [a]	43.2	31.1	19.0	5.0	1.7
Cooperative with playmates when participating in a group play activity; willing to give and take in the group, to listen to or to help others.	0.2	4.8	28.3	47.7	19.0
Takes turns in a game situation with toys, materials, and other things without being told to do so.	0.6	3.2	29.2	48.8	18.1
Offers suggestions for play to other children.	3.0	14.5	34.5	33.5	14.5
Suggestions for play are accepted by other children.	2.8	12.7	39.1	35.9	9.5
Engages in dramatic play or pretend play with other children.	0.7	6.5	22.9	48.8	21.0

[a] Item recoded to follow same direction as other items, with higher socre = mor e positive rating.

	Never	Rarely	Sometimes	Frequently	Always
Resolves potential social conflicts with peers without requiring help from the teacher or other adult.	3.2%	13.8%	42.93%	34.1%	6.7%
Complies with adult directives, giving little or no verbal or physical resistance, even with tasks child dislikes.	0.6	4.3	23.5	45.3	26.4
Initiates social interactions with familiar adults by starting a conversation, or by showing the adult something.	1.3	13.2	26.3	38.2	21.0
Observes rules and follows directions without requiring repeated reminders.	0.4	6.3	26.6	45.1	21.6
Does not fuss when he/she has to wait briefly to get attention from teacher or other adult; child may be asked once to wait by the teacher or adult.	4.8	9.3	23.1	40.8	22.0
Can deal with normal criticism or teasing by other children; does not easily cry, withdraw, pout, hit, or have a tantrum in response.	3.4	10.6	36.3	39.1	10.6
Tries to solve a problem on own before asking for help.	1.3	9.0	41.8	36.2	11.8
Shows satisfaction or pride when he/she completes a task or product.	0.0	1.1	14.0	50.7	34.1
Completes learning tasks involving two or more steps (e.g., cutting and pasting) in organized way.	0.0	3.4	20.0	44.7	32.0
Completes tasks successfully.	0.0	1.9	21.8	44.7	31.7
Attempts new and challenging tasks.	0.0	6.3	29.4	38.4	25.7
Concentrates when working on a task; is not easily distracted by surrounding activities.	0.4	6.9	27.4	42.1	23.3
Responds to instructions and then begins an appropriate task without being reminded.	0.4	5.4	29.8	439.7	24.8
Takes time to do his/her best on a task.	0.2	3.5	26.3	39.3	30.7

	Never	Rarely	Sometimes	Frequently	Always
Feels he or she can cope well with classroom situtations.	0.4%	3.2%	21.2%	50.1%	25.1%
Finds and organizes materials and works in an appropriate place, when activities are initiated.	0.2	2.8	25.3	49.3	22.3
Sees own errors in a task and corrects them.	1.7	7.7	39.1	40.8	10.4
Returns to unfinished tasks after interruption.	0.7	6.2	35.1	43.4	14.6
Interested in trying new activities, games, projects; displays curiosity about his/her environment.	0.0	2.6	27.7	41.6	28.1
Conveys confidence about being able to succeed at a task or in an activity.	0.0	4.5	25.9	41.2	28.5
Shows enthusiasm for activities or tasks.	0.0	2.2	26.5	41.0	30.2

Time Allocation Ratings

During times that the child can choose what to do (free play or choice time), approximately what percentage of time does this child spontaneously spend in the following activities:

Social play with others	**53.5%**
Working with materials alone or with others	**30.3%**
Solitary fantasy play	**9.3%**
Monitoring environment; or otherwise uninvolved in activities	**7.0%**
	100.0%

Exhibit A-19

Means For Ratings Of Cohort II Children By Giant Step Teachers

Rating Scale Item	Fall 1988 (n=569) $\bar{x}^a$	(s.d.)	Spring 1989 (n=520) $\bar{x}^a$	(s.d.)
Spontaneously joins in play with two or more children who are using the same set of materials or playing the same game.	3.68	(.93)	3.94	(.83)
Comforts peers in distress by doing things to make the playmate feel better.	2.95	(1.01)	3.23	(1.01)
Willing to share toys or other things with other children when playing; does not fight or argue with playmates in disputes over property.	3.56	(.87)	3.76	(.82)
Plays with other children.	3.96	(.84)	4.17	(.78)
Expresses hostility to other children verbally (teasing, threats, taunts, name calling, "I don't like you,", etc.). [b]	4.16	(.90)	4.09	(.98)
Expresses hostility to other children physically (hitting, pinching, kicking, pushing, biting). [b]	4.27	(.91)	4.27	(.92)
Cooperative with playmates when participating in a group play activity; willing to give and take in the group, to listen to or to help others.	3.61	(.85)	3.80	(.80)
Takes turns in a game situation with toys, materials, and other things without being told to do so.	3.57	(.84)	3.81	(.78)
Offers suggestions for play to other children.	3.11	(1.03)	3.42	(1.00)
Suggestions for play are accepted by other children.	3.09	(.95)	3.37	(.92)

[a] Scale = 1-5, with 1="never" and 5="always".

[b] Item recoded to follow same direction as other items, with higher score = more positive rating.

Rating Scale Item	Fall 1988 (n=569) $\bar{X}$	(s.d.)	Spring 1989 (n=520) $\bar{X}$	(s.d.)
Engages in dramatic play or pretend play with other children.	3.55	(.92)	3.83	(.86)
Resolves potential social conflicts with peers without requiring help from the teacher or other adult.	3.04	(.93)	3.27	(.89)
Complies with adult directives, giving little or no verbal or physical resistance, even with tasks child dislikes.	3.72	(.89)	3.93	(.85)
Initiates social interactions with familiar adults by starting a conversation, or by showing the adult something.	3.45	(1.03)	3.64	(1.00)
Observes rules and follows directions without requiring repeated reminders.	3.54	(.90)	3.81	(.86)
Does not fuss when he/she has to wait briefly to get attention from teacher or other adult; child may be asked once to wait by the teacher or adult.	3.56	(.96)	3.66	(1.07)
Can deal with normal criticism or teasing by other children; does not easily cry, withdraw, pout, hit, or have a tantrum in response.	3.35	(.95)	3.43	(.93)
Tries to solve a problem on own before asking for help.	3.31	(.86)	3.48	(.86)
Shows satisfaction or pride when he/she completes a task or product.	3.98	(.77)	4.18	(.70)
Completes learning tasks involving two or more steps (e.g., cutting and pasting) in organized way.	3.79	(.92)	4.05	(.81)
Completes tasks successfully.	3.84	(.80)	4.06	(.78)
Attempts new and challenging tasks.	3.63	(.91)	3.84	(.88)
Concentrates when working on a task; is not easily distracted by surrounding activities.	3.55	(.87)	3.81	(.88)

Rating Scale Item	Fall 1988 (n=569) $\bar{X}$	(s.d.)	Spring 1989 (n=520) $\bar{X}$	(s.d.)
Responds to instructions and then begins an appropriate task without being reminded.	3.52	(.88)	3.83	(.88)
Takes time to do his/her best on a task.	3.65	(.87)	3.97	(.85)
Feels he or she can cope well with classroom situtations.	3.76	(.79)	3.97	(.79)
Finds and organizes materials and works in an appropriate place, when activities are initiated.	3.68	(.85)	3.91	(.77)
Sees own errors in a task and corrects them.	3.22	(.85)	3.51	(.84)
Returns to unfinished tasks after interruption.	3.36	(.88)	3.65	(.83)
Interested in trying new activities, games, projects; displays curiosity about his/her environment.	3.76	(.90)	3.95	(.81)
Conveys confidence about being able to succeed at a task or in an activity.	3.72	(.84)	3.94	(.85)
Shows enthusiasm for activities or tasks.	3.77	(.87)	3.99	(.81)

Exhibit A-20

Mean Summary Scores from *Child Behavior Rating Scale* (ratings by PGS teachers)

	Cohort I				Cohort II			
	Fall '87 (n = 32)		Spring '88 (n = 276))		Fall '88 (n = 569)		Spring '89 (n = 450)	
	$\bar{x}$	(s.d)	$\bar{x}$	(s.d)	$\bar{x}$	(s.d)	$\bar{x}$	(s.d)
Overall average rating	2.94[a]	(.57)	3.14[a]	(.44)	3.58[b]	(.61)	3.82	(.57)
Average rating for peer interactions	3.07	(.55)	3.16	(.50)	3.57	(.62)	3.76	(.59)
Average rating for adult interactions	2.83	(.68)	2.87	(.52)	3.46	(.68)	3.69	(.65)
Average rating for task behavior	2.89	(.71)	3.21	(.50)	3.64	(.69)	3.90	(.66)

[a]Scale = 1-4

[b]Scale = 1-5

Reliability Coefficients

Cronbach alphas were computed for the summary rating scores for both cohorts. As Exhibit A-22 shows, the reliability coefficients were very high for the overall rating score and for two of the three subscores. Only the subscore for the items dealing with interactions with adults had a coefficient below 0.8. The high coefficients suggest that the interval consistency of the scale is very strong; scale items are highly related, which supports reliance on the overall average as the CBRS score.

Reliability of the PAAT

Analyses of the scale indicated moderate reliability. Exhibit A-24 shows the reliability coefficients for the subscales and the overall PAAT score for Cohort I (baseline and follow-up) and Cohort II (baseline).

Exhibit A-22

Fall-Spring Correlations for Summary Scores on the Child Behavior Rating Scale (ratings by PGS Teachers)

Summary Rating Score	Cohort I	Cohort II
Overall average rating	.51**	.67**
Average rating for child interactions	.49**	.65**
Average rating for adult interactions	.44**	.58**
Average rating for task behavior	.47**	.66**

** 1-tailed significance: .001

Exhibit A-23

Reliability Coefficients (Cronbach alphas) for the Child Behavior Rating Scale

Rating Scale Score	Cohort I		Cohort II	
	Fall	Spring	Fall	Spring
Overall rating	.95	.93	.96	.96
Peer interactions	.82	.81	.90	.89
Adult interactions	.69	.48	.71	.67
Task behavior	.95	.94	.96	.96

** 1-tailed significance: .001

Exhibit A-24

Reliability Coefficients (Cronbach alphas) for the PAAT

	Cohort I		Cohort II
	Baseline (n = 326)	Follow-up (n = 249)	Baseline (n = 413)
Play	.36	.58	.59
Teaching	.34	.44	.52
Control	.43	.46	.48
Creativity	.27	.56	.58
Frustration	.36	.44	.54
Overall Score	.70	.84	.85